AGENDA ITEM 1-1

CITY OF LODI
COUNCIL COMMUNICATION

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AGENDA TITLE: **Continued public hearing to consider appeal filed on 12/13/04 by Timothy Cremin of the firm Steefel, Levitt & Weiss to the Planning Commission decision on 12/08/04 regarding two conditions: 1) Condition R of the use permit and tentative map approval resolution requiring signed leases for 50% of the existing Wal-Mart store before a building permit is issued for the new Supercenter and prohibits tenant restrictions; and 2) Condition EE requiring the project developer to fund the commercial linkage fee nexus study under Program 11 of the Housing Element and pay any adopted fees**

MEETING DATE: **February 16, 2005**

PREPARED BY: **Community Development Director**

RECOMMENDED ACTION: That the City Council adopt the revised Resolution modifying Conditions R and EE as outlined in this staff report.

BACKGROUND INFORMATION: As the Council is aware, this item was continued from the Special meeting held on February 3, 2005 with specific direction given to staff to negotiate a revised Condition R. The City Attorney and Community Development Director have discussed several different options for this condition with the project proponent and appellant and have agreed on the following language for Condition R:

Prior to the issuance of a building permit for the new Wal-Mart Supercenter, the applicant shall ensure one of the following with respect to the existing Wal-Mart building located at 2350 West Kettleman Lane ("Building"):

a) The owner of the Building shall have entered into signed lease(s) with bona-fide tenant(s) for at least 50% of the Building square footage (not including the fenced, outdoor garden center). The signed lease(s) required hereunder shall include a lease(s) with a bona-fide retailer(s) or restaurant for a minimum of two-thirds of the Building frontage (not including the fenced, outdoor garden center); or

b) The owner of the Building shall have entered into a fully executed purchase agreement for the Building with a bona-fide retailer; or

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APPROVED: Blair King
Blair King, City Manager

c) The Applicant shall present to the City a cash escrow account, subject to the approval of the City Attorney, which account shall be for the purpose of securing applicant's obligation to demolish the Building not later than 90 days after the opening to the general public of the new Wal-Mart Supercenter (the "Opening Date"). The amount of the deposit shall be equal to the City estimated reasonable costs to demolish the Building (based on a licensed contractor estimate) plus $100,000. The escrow account shall be paid to City in the event that Option (a), (b) or (c) is not satisfied within 90 days of the Opening Date. If Option (a), (b) or (c) is satisfied within 90 days after the Opening Date, the cash in the escrow account shall be refunded in full to the Applicant.

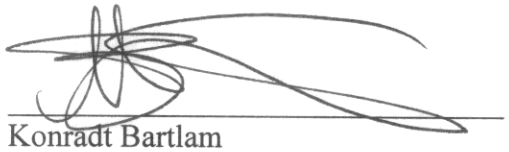
   If the Applicant does not satisfy this condition under Option (a), (b) or (c) within 90 days after the Opening Date, the City shall use the funds to demolish the Building with any balance reverting to the City as compensation for its expense and inconvenience incurred to demolish the Building. The owner of the Building shall present evidence that any lender on the Building consents to the demolition in a form subject to the approval of the City Attorney. This condition shall be recorded against the property as a deed restriction, which runs with the land. Applicant and Wal-Mart agree to enter into any agreements that are necessary in order to implement this condition.

We feel this new language meets the intent of the Planning Commission action while providing some additional flexibility to the applicant in finding new tenant(s) for the space.

With respect to Condition EE, staff is recommending that the condition be modified slightly. The change in this condition provides for the reimbursement of costs that might occur beyond what the ultimate fee would require. With this change, the condition will be more akin to the way in which the City does business regarding other fee payment. The end result will still require the applicant to pay for the entire nexus study. The amount paid will be credited against the final fee amount decided by the City Council. Any additional amount paid by the applicant for the study will be reimbursed out of program proceeds. The applicant and appellant are in concurrence with the revision. The condition would now read as follows:

> Developer shall pay for the linkage study that the City is required to do based on Program 11 of the recently adopted Housing Element of the General Plan. The developer shall receive a credit for the amount paid against the final fee as adopted by the City Council.

FUNDING:



Konradt Bartlam
Community Development Director

KB/lw

cc: City Attorney

RESOLUTION NO. 2005-38

A RESOLUTION OF THE LODI CITY COUNCIL APPROVING USE PERMIT FILE NO. U-02-12, TO ALLOW THE CONSTRUCTION OF A COMMERCIAL SHOPPING CENTER IN THE C-S ZONE AND SALE OF ALCOHOLIC BEVERAGES AT THE WAL-MART SUPERCENTER, AND TENTATIVE PARCEL MAP 03-P-001, TO CREATE 12 PARCELS FOR THE PROJECT RELATING TO THE LODI SHOPPING CENTER

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WHEREAS, an application was filed by Browman Development Company for a commercial shopping center at 2640 W. Kettleman Lane more particularly described as Assessor's Parcel Numbers 058-030-08 and 058-030-02 and portion of 058-030-09; and

WHEREAS, the application's are for the following approvals: Use Permits for the construction of commercial structures as required by the C-S Commercial Shopping District and for the sale of alcoholic beverages, as well as a Parcel map to create 12 parcels for the project; and

WHEREAS, the Planning Commission of the City of Lodi has reviewed and considered the Final Environmental Impact Report prepared on the Lodi Shopping Center; and

WHEREAS, the Planning Commission of the City of Lodi, after more than ten (10) days published notice, held a public hearing before said Commission on December 8, 2004; and

WHEREAS, the Lodi City Council has reviewed and considered the approval of Use Permit File No. U-02-12, to allow the construction of a commercial shopping center in the C-S Zone and sale of alcoholic beverages at the Wal-Mart Supercenter, and tentative parcel map 03-P-001, to create 12 parcels for the project relating to the Lodi Shopping Center; and

WHEREAS, the project is consistent with all elements of the General Plan. In particular, the following Goals and Policies:

A. Land Use and Growth Management Element, Goal E, "To provide adequate land and support for the development of commercial uses providing goods and services to Lodi residents and Lodi's market share."

B. Land Use and Growth Management Element, Goal E, Policy 7, "In approving new commercial projects, the City shall seek to ensure that such projects reflect the City's concern for achieving and maintaining high quality."

C. Land Use and Growth Management Element, Goal E, Policy 3, "The City shall encourage new large-scale commercial centers to be located along major arterials and at the intersections of major arterials and freeways."

D. Housing Element, Goal C, "To ensure the provision of adequate public facilities and services to support existing and future residential development".

E. Circulation Element, Goal G, "To encourage a reduction in regional vehicle miles traveled."

F. Circulation Element, Goal A, Policy 1, "The City shall strive to maintain Level of Service C on local streets and intersections. The acceptable level of service goal will be consistent with financial resources available and the limits of technical feasibility."

G. Noise Element, Goal A, "To ensure that City residents are protected from excessive noise."

H. Conservation Element, Goal C, Policy 1, "The City shall ensure, in approving urban development near existing agricultural lands, that such development will not constrain agricultural practices or adversely affect the economic viability of adjacent agricultural practices."

I. Health and Safety Element, Goals A, B, C, and D, "To prevent loss of lives, injury and property damage due to flooding." "To prevent loss of lives, injury, and property damage due to the collapse of buildings and critical facilities and to prevent disruption of essential services in the event of an earthquake." "To prevent loss of lives, injury, and property damage due to urban fires." "To prevent crime and promote the personal security of Lodi residents."

J. Urban Design and Cultural resources, Goal C, "To maintain and enhance the aesthetic quality of major streets and public/civic areas."

WHEREAS, the design and improvement of the site is consistent with all applicable standards adopted by the City. Specifically, the project has met the requirements of the Lodi Zoning Ordinance with particular emphasis on the standards for large retail establishments; and

WHEREAS, the design of the proposed project and type of improvements are not likely to cause public health or safety problems in that all improvements will be constructed to the City of Lodi standards; and

WHEREAS, these findings, as well as the findings made within Resolution No. P.C. 04-64 certifying Final Environmental Impact Report EIR-03-01, are supported by substantial evidence in the record of this proceeding and before this body.

NOW, THEREFORE, BE IT RESOLVED, DETERMINED, AND ORDERED as follows:

1. The foregoing recitals are true and correct.

2. Said Tentative Parcel Map complies with the requirements of the City Subdivision Ordinance, and the Subdivision Map Act.

3. Said Site Plan complies with the requirements of the Commercial Shopping (C-S) Zoning District.

4. The submitted plans, including site plot plan and architectural elevations for the major anchor building, for the project is approved subject to the following conditions.

   A. The approval of the Use Permit expires within 24 months from the date of this Resolution. Should any litigation be filed regarding this project, the time limit shown shall be tolled during the pendency of the litigation. Parcel Map

conforming to this conditionally approved Tentative Parcel Map shall be filed with the City Council in time so that the Council may approve said map before its expiration, unless prior to that date, the Planning Commission or City Council subsequently grants a time extension for the filing of the final map, as provided for in the City's Subdivision Ordinance and the Subdivision Map Act. It is the developer's responsibility to track the expiration date. Failure to request an extension will result in a refilling of the Tentative Parcel Map and new review processing of the map.

B. Prior to submittal of any further plan check or within 90 days of the approval of this project, whichever occurs first, the applicant shall sign a notarized affidavit stating that "I (we), _____, the owner(s) or the owner's representative have read, understand, and agree to implement all mitigation measures identified in the Final Environmental Impact Report for the Lodi Shopping Center and the conditions of the Planning Commission approving U-02-12 and 03-P-001." Immediately following this statement will appear a signature block for the owner or the owner's representative, which shall be signed. Signature blocks for the Community Development Director and City Engineer shall also appear on this page. The affidavit shall be approved by the City prior to any improvement plan or final map submittal.

C. Prior to issuance of any building permit on the site, each building shall be reviewed by the Site Plan and Architectural Review Committee for consistency with this resolution as well as all applicable standards of the City.

D. All applications for Site Plan and Architectural Review Committee consideration shall comply with the following conditions:

1. All buildings shall meet the required setbacks for the C-S zoning district. All buildings shall implement building elements and materials illustrated on the submitted elevation or otherwise consistent with the architectural theme presented on the submitted elevation of the major tenant building.

2. Submit a construction landscape plan consistent with the submitted conceptual landscape plan. The applicant shall also insure that the overall ratio of trees, including perimeter landscaping is equal to one tree for every four parking spaces. Further, said plan shall demonstrate that the City's requirement for parking lot shading is met.

3. The applicant shall select and note on all plans common tree species for the parking lot and perimeter areas from the list of large trees as identified in the Local Government Commission's "Tree Guidelines for the San Joaquin Valley".

4. All drive-through eating facilities shall have a "double service window" configuration and pullout lane to minimize auto emissions.

5. Cart corrals shall to be provided in the parking lot adjacent to Wal-Mart and distributed evenly throughout the lots rather than concentrated along the main drive aisle. In addition, a cart corral

shall be provided as close as possible to the two bus stop/shelters provided on-site. Further, cart corrals shall be permanent with a design that is consistent with the theme of the center. Portable metal corrals shall be prohibited.

6. Trash enclosures shall be designed to accommodate separate facilities for trash and recyclable materials. Trash enclosures having connections to the wastewater system shall install a sand/grease trap conforming to Standard Plan 205 and shall be covered.

7. Hardscape items, including tables, benches/seats, trashcans, bike racks, drinking fountains, etc. shall be uniform for all stores throughout the shopping center.

8. All signage shall be in compliance with a detailed Sign Program that shall be submitted to SPARC for review and approval with the first building plan review.

9. Said program shall require all signs to be individual channel letter at the standards provided by the zoning ordinance.

10. Any bollards installed in a storefront location shall be decorative in style and consistent with the theme of the shopping center. Plain concrete bollards, or concrete filled steel pipe bollards shall not be permitted.

E. All landscaped area shall be kept free from weeds and debris, maintained in a healthy growing condition and shall receive regular pruning, fertilizing, mowing, and trimming. Unhealthy, dead, or damaged plant materials shall be removed and replaced within 30 days following written notice from the Community Development Director.

F. The following items are conditions of approval for the vesting tentative parcel map, all to be accomplished prior to, or concurrent with, final parcel map filing unless noted otherwise:

1. Dedication of street right-of-way as shown on the parcel map with the following changes/additions:

a) Street right-of-way dedications on Westgate Drive shall be in conformance with the traffic study for the project and City of Lodi requirements and shall be consistent with the West Side Facility Master Plan. The north and south legs of Westgate Drive must be in alignment through the intersection at Kettleman Lane. Construction of full width street improvements to and including the west curb and gutter is required. Acquisition of additional right-of-way from adjacent parcels to the west is the responsibility of the developer and must be supplied prior to recordation of any final parcel map. In the event the developer is unable to acquire the additional right-of-way from adjacent property owners, the project site plan and proposed parcel boundaries shall be modified to provide the required street right-of-way dedications within the boundaries of the map.

b) Right-of-way dedications on Lower Sacramento Road and Kettleman Lane shall be in conformance with the project traffic study and City of Lodi street geometric requirements for this project and to the approval of the Public Works Department and Caltrans. The right-of-way width and lane geometry for Kettleman Lane need to be compatible with the improvement plans prepared by Mark Thomas & Company for the Vintner's Square Shopping Center on the north side of Kettleman Lane. Right-of-way dedications on Kettleman Lane shall be made to Caltrans in conformance with their requirements. Separate parcels shall be created for Caltrans dedications. It should be anticipated that Caltrans will require street widening improvements west of the project boundary. Acquisition of any right-of-way necessary to meet Caltrans requirements shall be the responsibility of the developer.

c) Lower Sacramento Road is an established STAA route and turning movements to and from the roadway into private driveways and intersecting streets are required to demonstrate that accommodation has been made for the truck turning movement in conformance with Public Works requirements. At the signalized intersection and the driveway immediately north, the right-of-way dedications and driveway design shall provide for 60-foot radius truck turning movements as set forth in the Caltrans Highway Design Manual.

d) The right-of-way dedication and driveway design at the south project driveway on Lower Sacramento Road shall accommodate and be in conformance with the California Semitrailer wheel track (18m/60ft radius) turning template.

e) Right-of-way dedications at all proposed project driveway locations shall be sufficient to accommodate the handicap ramps and public sidewalks at the crosswalk locations. In addition, the right-of-way dedication at the proposed traffic signal location on Lower Sacramento Road shall be sufficient to allow installation of the traffic signal improvements within the public right-of-way.

2. Dedication of public utility easements as required by the various utility companies and the City of Lodi, including, but not limited to, the following:

a) An existing public utility easement (PUE) lies within the proposed Westgate Drive right-of-way. The existing PUE shall be abandoned and an equal replacement PUE conforming to City of Lodi requirements shall be provided immediately adjacent to and west of the west right-of-way line of Westgate Drive. Acquisition of the replacement PUE from adjacent parcels to the west is the responsibility of the developer and must be accomplished prior to recordation of any final parcel map. In the event the developer is unable to acquire the replacement PUE from adjacent property owners, the project site plan and proposed parcel boundaries shall be modified to provide the required PUE dedications within the boundaries of the map.

b) A PUE along the southerly property line sufficient to accommodate the installation of electric utility overhead transmission lines and underground conduit bank outside proposed landscape areas, and the extension of water, wastewater and industrial waste transmission lines between Lower Sacramento Road and Westgate Drive. We anticipate the required PUE along the south project boundary will be on the order of 65 to 75 feet. It may be possible to reduce the width of the PUE by realigning some of the pipes through the shopping center site. The actual alignment and width will be to the approval of the Public Works Department and City of Lodi Electric Utility.

c) A PUE at the proposed signalized project driveway to accommodate the installation of traffic signal loops.

d) A PUE at the existing southerly Sunwest Plaza (Food 4 Less) driveway to accommodate the installation of traffic signal loops. Acquisition of the PUE is the responsibility of the developer and must be accomplished prior to recordation of any final parcel map.

3. In order to assist the City in providing an adequate water supply, the property owner is required to enter into an agreement with the City that the City of Lodi be appointed as its agent for the exercise of any and all overlying water rights appurtenant to the proposed Lodi Shopping Center, and that the City may charge fees for the delivery of such water in accordance with City rate policies. The agreement establishes conditions and covenants running with the land for all lots in the parcel map and provides deed provisions to be included in each conveyance.

   Submit final map per City requirements including the following:

   a) Preliminary title report.
   b) Standard note regarding requirements to be met at subsequent date.

4. Payment of the following:

   a) Filing and processing fees and charges for services performed by City forces per the Public Works Fee and Service Charge Schedule.

G. The following items are conditions of approval for the vesting tentative parcel map and use permit that will be deferred until the time of development:

1. Engineering and preparation of improvement plans and estimate per City Public Improvement Design Standards for all public improvements for all parcels at the time of development of the first parcel. Plans to include:

   a) Detailed utility master plans and design calculations for all phases of the development, including the proposed temporary storm drainage detention basin. Detailed utility master plans have not been developed for the area between Kettleman Lane on the north, Harney Lane on the south, Lower Sacramento Road on the east and the current General Plan boundary on the west. The project site is at the upstream boundary of the storm drain and wastewater utilities for this area. The developer's engineer shall provide

detailed drainage master plans, including engineering calculations, for the entire area as well as all phases of the proposed project. City staff will assist in this process to the extent practicable. Should City staff be unable to meet developer's schedule, developer shall have the option to pay the City to contract for supplemental outside consultant services to expedite review and approval of the master planning work.

b) Current soils report. If the soils report was not issued within the past three (3) years, provide an updated soils report from a licensed geotechnical engineer.

c) Grading, drainage and erosion control plan.

d) Copy of Notice of Intent for NPDES permit, including storm water pollution prevention plan (SWPPP).

e) All utilities, including street lights and electrical, gas, telephone and cable television facilities.

f) Landscaping and irrigation plans for street medians and parkway areas in the public right-of-way.

g) Undergrounding of existing overhead utilities, excluding transmission lines.

h) Installation of the proposed traffic signal at the main project driveway on Lower Sacramento Road. The traffic signal shall be designed to operate as an eight phase signal.

i) Modification of the existing southerly Sunwest Plaza (Food 4 Less) driveway to widen the driveway to the south as shown on the site plan and construct a driveway return comparable to the existing driveway return.

j) Installation/modification of the traffic signal at the Kettleman Lane/Westgate Drive intersection as required by the project.

k) Traffic striping for Lower Sacramento Road, Westgate Drive and Kettleman Lane.

A complete plan check submittal package including all the items listed above plus engineering plan check fees is required to initiate the Public Works Department plan review process for the engineered improvement plans.

2. There is limited wastewater capacity in the wastewater main in Lower Sacramento Road. The area of the shopping center site containing the proposed Wal-Mart store lies outside the service area for the Lower Sacramento Road wastewater line. Developer shall perform a capacity analysis using flow monitoring protocols to assess the viability of utilizing the Lower Sacramento Road wastewater line on an interim basis. Wastewater facilities outside the Lower Sacramento Road service area shall be designed to allow future connection to the wastewater main in Westgate Drive. If the capacity analysis indicates that interim capacity in the Lower Sacramento Road wastewater line is not available, master plan wastewater facilities shall be constructed to serve the project.

3. Installation of all public utilities and street improvements in conformance including, but not limited to, the following:

   a) Installation of all curb, gutter, sidewalk, traffic signal and appurtenant facilities, traffic control or other regulatory/street signs, street lights, medians and landscaping and irrigation systems. All improvements on Kettleman Lane shall be in conformance with City of Lodi and Caltrans requirements and require Caltrans approval. Additional right-of-way acquisition outside the limits of the map may be required and shall be the responsibility of the developer.

   b) The extension/installation of all public utilities, including, but not limited to, the extension of master plan water, wastewater, storm drainage and reclaimed water mains to the south end of Westgate Drive and the extension of water, wastewater and industrial waste transmission lines through the shopping center site from Lower Sacramento Road to Westgate Drive. The developer's engineer shall work with Public Works Department staff to resolve public utility design issues.

   c) Relocation of existing utilities, as necessary, and undergrounding of existing overhead lines, excluding electric (64 kv) transmission lines.

   d) Storm drainage design and construction shall be in compliance with applicable terms and conditions of the City's Stormwater Management Plan (SMP) approved by the City Council on March 5, 2003, and shall employ the Best Management Practices (BMPs) identified in the SMP. If bioswales are to be used, they need to be clearly delineated and detailed on the site plan and the landscape plan. Most trees are not compatible with bioswales.

   e) The lane configuration for Westgate Drive shall be consistent with the West Side Facility Master Plan. The street improvements will include a landscaped median and parkways. Improvements on Westgate Drive shall extend to and include the installation of the westerly curb and gutter. Acquisition of street, public utility and construction easements from the adjoining property may be necessary to allow this construction and shall be the responsibility of the developer. Street improvements for Westgate Drive shall be constructed from the signalized intersection on Kettleman Lane to the south boundary of the parcel map.

   f) Modification of the existing southerly Sunwest Plaza (Food 4 Less) driveway in conformance with the California Semitrailer wheel track (18m/60ft radius) turning template to accommodate northbound right turns. Acquisition of additional right-of-way and construction easements from the adjacent property to the south may be necessary to accomplish this work and shall be the responsibility of the developer.

   All public improvements to be installed under the terms of an improvement agreement to be approved by the City Council prior to development of the first parcel.

4. The proposed temporary storm drainage basin shall be designed in conformance with City of Lodi Design Standards §3.700 and must be approved by the City Council. Acquisition of property to accommodate the construction of the temporary drainage basin is the responsibility of the developer. All drainage improvements shall be designed for future connection to permanent public drainage facilities when they become available. If a temporary outlet from the drainage basin to the public storm drain system in Lower Sacramento Road is desired, developer's engineer shall contact the Public Works Department to coordinate this work with the City's Lower Sacramento Road Widening Project.

5. A Caltrans encroachment permit is required for all work in the Kettleman Lane right-of-way, including landscape and irrigation improvements in the median and parkway along the site frontage. Based on past experience, Caltrans will only allow landscape and irrigation improvements within their right-of-way if the City enters into an agreement with Caltrans covering maintenance responsibilities for those improvements. The City is willing to execute such an agreement, however, the developer will be required to execute a similar landscape maintenance agreement with the City assuming the city's responsibilities for the landscape and irrigation improvements in the parkways. The City will accept maintenance responsibilities for all landscape and irrigation improvements in the median.

6. Design and installation of public improvements to be in accordance with City master plans and the detailed utility master plans as previously referenced above.

   Note that the developer may be eligible for reimbursement from others for the cost of certain improvements. It is the developer's responsibility to request reimbursement and submit the appropriate information per the Lodi Municipal Code (LMC) §16.40.

7. Parcels 1 through 12 are zoned C-S to allow development of a commercial shopping center. The following improvements shall be constructed with the development of the first parcel zoned for commercial development:

   a) Installation of all street improvements on Lower Sacramento Road, Kettleman Lane and Westgate Drive. Street improvements for Lower Sacramento Road and Westgate Drive shall be constructed from the signalized intersections on Kettleman Lane to the south boundary of the parcel map. Street improvements along the frontages of Parcels 1, 12 and "A" shall extend to and include the installation of the westerly curb and gutter.

   b) Modification of the existing southerly Sunwest Plaza (Food 4 Less) driveway in conformance with the California Semitrailer wheel track (18m/60ft radius) turning template to accommodate northbound right turns.

   c) The extension/installation of all public utilities necessary to serve the commercial development and/or required as a condition of development.

d) Temporary storm drainage detention basin to serve the project.

8. Acquisition of street right-of-way, public utility easements and/or construction easements outside the limits of the map to allow the installation of required improvements on Kettleman Lane, Lower Sacramento Road and Westgate Drive.

9. Abandonment/removal of wells, septic systems and underground tanks in conformance with applicable City and County requirements and codes prior to approval of public improvement plans.

Payment of the following:

a) Filing and processing fees and charges for services performed by City forces per the Public Works Fee and Service Charge Schedule.

b) Development Impact Mitigation Fees per the Public Works Fee and Service Charge Schedule at the time of payment and as provided by Resolution 2004-238 adopted by the City Council on November 3, 2004.

c) Wastewater capacity fee at building permit issuance.

d) Reimbursement fees per existing agreements:

I. Reimbursement Agreement RA-02-02. The reimbursement fee for 2004 is $32,307.78. The fee is adjusted annually on January 1. The fee to be paid will be that in effect at the time of payment.

II. The Vintner's Square shopping center on the north side of Kettleman Lane is currently under construction. We anticipate that the developer of the Vintner's Square project will submit a request for reimbursement in conformance with LMC 16.40 Reimbursements for Construction covering public improvements in Kettleman Lane and Westgate Drive constructed with that development which benefit the Lodi Shopping Center project when the Vintner's Square improvements are complete. Upon submittal, the reimbursement agreement will be prepared by City staff and presented to the City Council for approval. Any reimbursement fees approved by the City Council that affect the Lodi Shopping Center site will have to be paid in conjunction with the development of the first parcel.

e) Reimbursement to the City for the installation and/or design costs for the following improvements to be included in City's Lower Sacramento Road project:

I. Installation of 10-inch water main and storm drain lines, including appurtenant facilities, in Lower Sacramento Road in conformance with LMC §16.40 Reimbursements for Construction.

II. Water, wastewater and storm drain stubs to serve the shopping center project.

III. Any other costs associated with changes/additions necessary to accommodate the Lodi Shopping Center project, including, but not limited to, any utility alignment changes for public utilities to be

extended through the site and the proposed dual northbound left turn lanes and conduit crossings for the traffic signal improvements at the main shopping center driveway.

f) The project shall contribute its fair share cost to the installation of a permanent traffic signal at Lower Sacramento Road and Harney Lane. Until the intersection improvements are made and traffic signals are installed, the project applicant shall contribute its fair share cost for the installation of a temporary traffic signal with left-turn pockets on all four approaches to the Lower Sacramento Road/ Harney Lane intersection.

The above fees are subject to periodic adjustment as provided by the implementing ordinance/resolution. The fee charged will be that in effect at the time of collection indicated above.

10. Obtain the following permits:

    a) San Joaquin County well/septic abandonment permit.
    b) Caltrans Encroachment Permit for work in Caltrans right-of-way.

11. The City will participate in the cost of the following improvements in conformance with LMC §16.40 Reimbursements for Construction:

    a) Master plan storm drain lines.
    b) Master plan water mains.
    c) Master plan reclaimed water mains
    d) Industrial waste

    Please note that construction of master plan wastewater facilities to serve the project site is not included in the City's Development Impact Mitigation Fee Program and is not subject to impact mitigation fee credits for sewer facilities or reimbursement by the City.

H. Install fire hydrants at locations approved by the Fire Marshal.

I. Shopping carts shall be stored inside the buildings or stored in a cart storage area adjacent to the entrance of the building.

J. No outdoor storage or display of merchandise shall be permitted at the project unless a specific plan for such display is approved by SPARC. At no time shall outdoor storage or display be allowed within the parking area, drive aisle or required sidewalks of the center.

K. Vending machines, video games, amusement games, children's rides, recycling machines, vendor carts or similar items shall be prohibited in the outside area of all storefronts. The storefront placement of public telephones, drinking fountains and ATM machines shall be permitted subject to the review and approval of the Community Development Director.

L. All storage of cardboard bales and pallets shall be contained within the area designated at the rear of the Wal-Mart building for such use. No storage of cardboard or pallets may exceed the height of the masonry enclosure at any time.

M. The loading area shown in front of the Wal-Mart building shall be stripped and posted with "NO PARKING – LOADING ONLY" signs to the satisfaction of the Community Development Director.

N. A photometric exterior lighting plan and fixture specification shall be submitted for review and approval of the Community development Director prior to the issuance of any building permit. Said plans and specification shall address the following:

1. All project lighting shall be confined to the premises. No spillover beyond the property line is permitted.

2. The equivalent of one (1) foot-candle of illumination shall be maintained throughout the parking area.

O. Exterior lighting fixtures on the face of the buildings shall be consistent with the theme of the center. No wallpacks or other floodlights shall be permitted. All building mounted lighting shall have a 90-degree horizontal flat cut-off lens unless the fixture is for decorative purposes.

P. All parking light fixtures shall be a maximum of 25 feet in height. All fixtures shall be consistent throughout the center.

Q. All construction activity shall be limited to the hours of 7:00 a.m. to 6:00 p.m. Monday through Saturday. No exterior construction activity is permitted on Sundays or legal holidays.

R. Prior to the issuance of a building permit for the new Wal-Mart Supercenter, the applicant shall ensure one of the following with respect to the existing Wal-Mart building located at 2350 West Kettleman Lane ("Building"):

a) The owner of the Building shall have entered into signed lease(s) with bona-fide tenant(s) for at least 50% of the Building square footage (not including the fenced, outdoor garden center). The signed lease(s) required hereunder shall include a lease(s) with a bona-fide retailer(s) or restaurant for a minimum of two-thirds of the Building frontage (not including the fenced, outdoor garden center); or

b) The owner of the Building shall have entered into a fully executed purchase agreement for the Building with a bona-fide retailer; or

c) The Applicant shall present to the City a cash escrow account, subject to the approval of the City Attorney, which account shall be for the purpose of securing applicant's obligation to demolish the Building not later than 90 days after the opening to the general public of the new Wal-Mart Supercenter (the "Opening Date"). The amount of the deposit shall be equal to the City estimated reasonable costs to demolish the Building (based on a licensed contractor estimate) plus $100,000. The escrow account shall be paid to City in the event that Option (a), (b) or (c) is not satisfied within 90 days of the Opening Date. If Option (a), (b) or (c) is satisfied within 90 days after the Opening Date, the cash in the escrow account shall be refunded in full to the Applicant.

If the Applicant does not satisfy this condition under Option (a), (b) or (c) within 90 days after the Opening Date, the City shall use the funds to demolish the Building with any balance reverting to the City as compensation for its expense and inconvenience incurred to demolish the Building. The owner of the Building shall present evidence that any lender on the Building consents to the demolition in a form subject to the approval of the City Attorney. This condition shall be recorded against the property as a deed restriction, which runs with the land. Applicant and Wal-Mart agree to enter into any agreements that are necessary in order to implement this condition.

S. No materials within the garden or seasonal sales area shall be stored higher than the screen provided.

T. Wal-Mart shall operate and abide by the conditions of the State of California Alcoholic Beverage Control license Type 21, off sale-general.

U. Wal-Mart shall insure that the sale of beer and wine does not cause any condition that will result in repeated activities that are harmful to the health, peace or safety of persons residing or working in the surrounding area. This includes, but is not limited to: disturbances of the peace, illegal drug activity, public drunkenness, drinking in public, harassment of passerby, assaults, batteries, acts of vandalism, loitering, illegal parking, excessive or loud noise, traffic violations, lewd conduct, or police detention and arrests.

V. This Use Permit is subject to periodic review to monitor potential problems associated to the sale of alcoholic beverages.

W. Prior to the issuance of a Type 21 license by the State of California Alcoholic Beverage Control Department, the management of the Wal-Mart store shall complete the Licensee Education on Alcohol and Drugs (LEAD) as provided by the State Alcoholic Beverage Control Department. In the event that Wal-Mart has training that is equivalent to the LEAD program, such documentation shall be submitted to the Community Development Director for review and approval.

X. The project shall incorporate all mitigation measures as specified in the adopted Final Environmental Impact Report EIR-03-01 for the project.

Y. The submitted Use Permit, Parcel Map and associated plot plan are hereby approved subject to the conditions set forth in this resolution.

Z. No variance from any City of Lodi adopted code; policy or specification is granted or implied by the approval of this Resolution.

AA. The sliding gates that are shown in the rear of the Wal-Mart building shall have a knox box system at each gate for Fire Department access.

BB. Buildings, which are fire sprinkled, shall have Fire Department connections within 50 feet of a fire hydrant, subject to the Fire Marshall's approval.

CC. Fire lanes shall be identified per Lodi Municipal Code 10.40.100 and marked in locations specified by the Fire Marshall. All fire lanes shall be a minimum of 24-foot-wide.

DD. The water supply for the project shall meet the requirements for fire hydrants and fire sprinkler demand and system approved by the Fire Marshall.

EE. Developer shall pay for the linkage study that the City is required to do based on Program 11 of the recently adopted Housing Element of the General Plan. The developer shall receive a credit for the amount paid against the final fee as adopted by the City Council.

FF. Wal-Mart shall provide proof of sale, to a non Wal-Mart related entity, of the existing Wal-Mart property located at 2350 W. Kettleman Lane prior to the issuance of the building permit for the new Wal-Mart Supercenter without condition on the right of purchaser to lease or sell the existing Wal-Mart building.

5. The City Council certifies that a copy of this Resolution, and Final Environmental Impact Report are kept on file with the City of Lodi Community Development Department, 221 West Pine Street, Lodi, CA 95240.

Dated: February 16, 2005

==========

I hereby certify that Resolution No. 2005-38 was passed and adopted by the City Council of the City of Lodi in a regular meeting held February 16, 2005, by the following vote:

AYES: COUNCIL MEMBERS – Hansen, Hitchcock, Johnson, and Mounce

NOES: COUNCIL MEMBERS – None

ABSENT: COUNCIL MEMBERS – None

ABSTAIN: COUNCIL MEMBERS – Mayor Beckman

SUSAN J. BLACKSTON
City Clerk

CITY OF LODI

CITY HALL, 221 WEST PINE STREET
P.O. BOX 3006
LODI, CALIFORNIA 95241-1910
(209) 333-6702
FAX (209) 333-6807
cityclrk@lodi.gov

February 7, 2005

Steefel, Levitt & Weiss
Timothy Cremin
One Embarcadero Center, 30th Floor
San Francisco, CA 94111-3719

NOTICE OF CONTINUED PUBLIC HEARING – February 16, 2005

This letter is to notify you that the February 3, 2005 public hearing to consider your appeal of the Planning Commission decision on 12/08/04 regarding two conditions: 1) Condition R of the use permit and tentative map approval resolution requiring signed leases for 50% of the existing Wal-Mart store before a building permit is issued for the new Supercenter and prohibits tenant restrictions; and 2) Condition requiring the project developer to fund the commercial linkage fee nexus study under Program 11 of the Housing Element and pay any adopted fees **has been continued to Wednesday, February 16, 2005**, at **7:00 p.m.,** or as soon thereafter as the matter can be heard, at the Carnegie Forum, 305 W. Pine Street, Lodi.

If you challenge the proposed action in court, you may be limited to raising only those issues you or someone else raised at the public hearing described in this notice, or in written correspondence delivered to the City Council at, or prior to, the public hearing. *Note: Written correspondence for the City Council may be mailed in c/o the City Clerk's Office, P.O. Box 3006, Lodi, CA 95241-1910, or delivered to the City Clerk at 221 West Pine Street, Lodi, California.*

Should you have any questions, please contact my office or Community Development Director Konradt Bartlam at (209) 333-6711.

Susan J. Blackston
City Clerk

cc: Community Development Director

NOTICE OF CONTINUED PUBLIC HEARING

CITY COUNCIL

CITY OF LODI

NOTICE IS HEREBY GIVEN that the February 3, 2005, public hearing of the City Council of the City of Lodi to consider appeal filed on 12/13/04 by Timothy Cremin of the firm Steefel, Levitt & Weiss to the Planning Commission decision on 12/08/04 regarding two conditions: 1) Condition R of the use permit and tentative map approval resolution requiring signed leases for 50% of the existing Wal-Mart store before a building permit is issued for the new Supercenter and prohibits tenant restrictions; and 2) Condition requiring the project developer to fund the commercial linkage fee nexus study under Program 11 of the Housing Element and pay any adopted fees has been continued to **February 16, 2005 at the hour of 7:00 p.m.** in the Council Chamber, Carnegie Forum, 305 W. Pine Street, Lodi, California.

Posted February 4, 2005

Jennifer M. Perrin

SUSAN J. BLACKSTON
for CITY CLERK
Of the City of Lodi

filed
2-16-05
Item I-1

HERUM CRABTREE BROWN
Attorneys At Law

Steven A. Herum
sherum@herumcrabtree.com

February 16, 2005

VIA HAND DELIVERY

Lodi City Council
City of Lodi
City Hall
21 West Pine Street
Lodi, California 95241

Re: Additional Documents Related to Lodi Wal-Mart Supercenter

Dear Honorable Members of the Lodi City Council:

Enclosed please find the following documents related to the proposal to develop a Wal-Mart Supercenter-anchored shopping center in Lodi.

1. **CEQA Guidelines Section 15030 and OPR/Resources Agency discussion.** As this document explains, "The cumulative impact analysis requires a discussion of projects with related cumulative impacts where required EIRs, Negative Declarations, or were exempt from CEQA…The court in SFFRG took note of the problem of where to draw the line on projects undergoing environmental review since application of new projects are constantly being submitted. A reasonable point might be after the preparation of the draft EIR."

2. **Documents Regarding Approval of Hammer Lane Supercenter**. The following documents show that the Hammer Lane Supercenter was approved in Stockton over two years prior to Lodi's decision to contact the San Joaquin County Planning Department regarding related projects to be included in the EIR's List of Projects. These documents were obtained from the City of Stockton Planning Department on February 15, 2005.

   a. **City of Stockton Planning Commission Staff Report UP4-02. (2/28/02)** Recommends approval of a use permit for 207,559 sq ft retail store, including sale of alcoholic beverages, at the NW corner of the intersection of Hammer Lane and Holman Road in Stockton.

b. **Notice of Determination for UP4-02. (3/1/02)** Announces Stockton's determination to approve UP4-02.

c. **Stockton Use Permit No. UP4-02. (3/12/02)** Approves 207,559 sq ft retail store, including sale of alcoholic beverages, at the NW corner of the intersection of Hammer Lane and Holman Road in Stockton.

3. **Documents Regarding Trinity Way (Spanos Park) Supercenter**. The following documents show that the north Stockton Trinity Way Supercenter was approved by the Stockton Planning Commission several weeks prior to Lodi's decision to contact the San Joaquin County Planning Department regarding related projects to be included in the EIR's List of Projects. These documents were obtained from the City of Stockton Planning Department and from the City of Stockton Internet website on February 15, 2005.

a. **City of Stockton Planning Commission Staff Report UP15-04. (4/8/04)** Recommends approval of a use permit for 207,160 sq ft retail store, including sale of alcoholic beverages, at the NW corner of the intersection of Trinity Parkway and Consumnes Drive in Stockton.

b. **Minutes of City of Stockton Planning Commission re UP15-04. (4/8/04)** Shows Planning Commission approval of a use permit for 207,160 sq ft retail store, including sale of alcoholic beverages, at the NW corner of the intersection of Trinity Parkway and Consumnes Drive in Stockton.

c. **Minutes of Stockton City Council Meeting re Appeal of UP15-04. (6/22/04)** Shows City Council approval of a use permit for 207,160 sq ft Wal-Mart Supercenter, including sale of alcoholic beverages, at the NW corner of the intersection of Trinity Parkway and Consumnes Drive in Stockton.

d. **Notice of Exemption for UP15-04. (6/30/04)** Announces Stockton's determination that UP4-15 was exempt from CEQA.

4. **Documents Regarding Human Health Impacts from Significant Air Quality Impacts.** The following studies demonstrate that a causal link may be established between the quantity of air pollution that will be directly or indirectly emitted from the project and the potential magnitude of certain public health effects.

a. **C. Arden Pope II, PhD; Richard T. Burnett, PhD; Michael J. Thun, MD; Eugenia E. Calle, PhD; Daniel Kreski, PhD; Kazuhiko Ito, PhD; George D. Thurston, ScD, Lung Cancer, Cardiopulmonary Mortality, and Long-term Exposure to Fine Particulate Air Pollution, The Journal of the American Medical Association, Vol. 287 No. 9 (March 6, 2002)**

This study assessed the relationship between long-term exposure to fine particulate air pollution and all cause, lung cancer, and cardiopulmonary mortality. The study resulted in the following findings: "[f]ine particulate and sulfur oxide-related pollution were associated with all-cause, lung cancer, and cardiopulmonary mortality. Each 10-$\mu g/m^3$ elevation in fine particulate air pollution was associated with approximately a 4%, 6%, and 8% increased risk of all-cause, cardiopulmonary, and lung cancer mortality, respectively. Measures of coarse particle fraction and total suspended particles were not consistently associated with mortality." (Emphasis added). The study concludes that "long-term exposure to combustion-related fine particulate air pollution is an important environmental risk factor for cardiopulmonary and lung cancer mortality."

b. **Janneane F. Gent, PhD; Elizabeth W. Triche, PhD; Theodore R. Holford, PhD; Kathleen Belanger, PhD; Michael Bracken, PhD; William S. Beckett, MD; Brian P. Leaderer, PhD, Association of Low-Level Ozone and Fine Particles with Respiratory Symptoms in Children with Asthma, The Journal of the American Medical Association, Vol. 290 No. 14 (October 8, 2003)**

This study examined the simultaneous effects of ozone and $PM_{2.5}$ at levels below EPA standards on daily respiratory symptoms and rescue medication use among children with asthma. The professors studied asthmatic children from the New Haven, Connecticut and Springfield, Massachusetts, areas including 130 children who used maintenance medications for asthma and 141 children who did not; the former group was considered to have more severe asthma.

The study found that "[m]ean (SD) levels were 59 (19) ppb (1-hour average) and 51 (16) ppb (8-hour average for ozone and 13(8) $\mu g/m^3$ for $PM_{2.5}$. In copollutant models, ozone level but not $PM_{2.5}$ was significantly associated with respiratory symptoms and rescue medication use among children using maintenance medication; a 50-ppb increase in 1-hour ozone was associated with increased likelihood of wheeze (by 35%) and chest tightness (by 47%). The highest levels of ozone (1-hour or 8-hour averages) were associated with increased shortness of breath and rescue medication use. No significant, exposure-dependent associations were observed for any outcome by any pollutant among children who did not use maintenance medication." (Emphasis added). The study concludes "asthmatic children using maintenance medication are particularly vulnerable to ozone, controlling for exposure to fine particles, at levels below EPA standards."

c. **Nino Kunzli, Michael Jerret, Wendy J. Mack, Bernardo Beckerman, Laurie LaBree, Frank Gilliland, Duncan Thomas, John Peters, and Howard N. Hodis, Ambient Air Pollution and Atherosclerosis in Los Angeles, Environmental Health Perspectives, Vol. 113 No. 2 (February 2005)** (From the University of Southern California in Los Angeles)

The professors studied around 800 men and women in the Los Angeles area. The study investigated the association between long-term exposure to air pollution and an increased risk of atherosclerosis, a form of cardiovascular disease. Results of the study showed that participants living the areas with the highest levels of $PM_{2.5}$ had the most narrowing of their carotid arteries. For every 10-point increase in $PM_{2.5}$, carotid arteries were approximately 4% narrower. Results also showed a higher percentage increase of narrowing for persons on lipid-lowering medication at study entry (approximately 15%). Effect estimates for women were determined to be statistically significant and typically in the range of 6-9% per 10 $\mu g/m^3$ $PM_{2.5}$. The study found that associations were strongest among women over sixty years old, leading to crude estimates of 19.2% (9-31%).

Very truly yours,

STEVEN A. HERUM
Attorney-at-Law
SAH/BSJ
Enclosures

15130. Discussion of Cumulative Impacts

(a) An EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable, as defined in section 15065(c). Where a lead agency is examining a project with an incremental effect that is not "cumulatively considerable," a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable.

(1) As defined in Section 15355, a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. An EIR should not discuss impacts which do not result in part from the project evaluated in the EIR.

(2) When the combined cumulative impact associated with the project's incremental effect and the effects of other projects is not significant, the EIR shall briefly indicate why the cumulative impact is not significant and is not discussed in further detail in the EIR. A lead agency shall identify facts and analysis supporting the lead agency's conclusion that the cumulative impact is less than significant.

(3) An EIR may determine that a project's contribution to a significant cumulative impact will be rendered less than cumulatively considerable and thus is not significant. A project's contribution is less than cumulatively considerable if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact. The lead agency shall identify facts and analysis supporting its conclusion that the contribution will be rendered less than cumulatively considerable.

(b) The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact. The following elements are necessary to an adequate discussion of significant cumulative impacts:

(1) Either:

(A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or

(B) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or areawide conditions contributing to the cumulative impact. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency.

(2) When utilizing a list, as suggested in paragraph (1) of subdivision (b), factors to consider when determining whether to include a related project should include the nature of each environmental resource being examined, the location of the project and its type. Location may be important, for example, when water quality impacts are at issue since projects outside the watershed would probably not contribute to a cumulative effect. Project type may be important, for example, when the impact is specialized, such as a particular air pollutant or mode of traffic.

(3) Lead agencies should define the geographic scope of the area affected by the cumulative effect and provide a reasonable explanation for the geographic limitation used.

(4) A summary of the expected environmental effects to be produced by those projects with specific reference to additional information stating where that information is available; and

(5) A reasonable analysis of the cumulative impacts of the relevant projects. An EIR shall examine reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects.

(c) With some projects, the only feasible mitigation for cumulative impacts may involve the adoption of ordinances or regulations rather than the imposition of conditions on a project-by-project basis.

(d) Previously approved land use documents such as general plans, specific plans, and local coastal plans may be used in cumulative impact analysis. A pertinent discussion of cumulative impacts contained in one or more previously certified EIRs may be incorporated by reference pursuant to the provisions for tiering and program EIRs. No further cumulative impacts analysis is required when a project is consistent with a general, specific, master or comparable programmatic plan where the lead agency determines that the regional or areawide cumulative impacts of the proposed project have already been adequately addressed, as defined in section 15152(f)~~(e)~~, in a certified EIR for that plan.

(e) If a cumulative impact was adequately addressed in a prior EIR for a community plan, zoning action, or general plan, and the project is consistent with that plan or action, then an EIR for such a project should not further analyze that cumulative impact, as provided in Section 15183(j).

Note: Authority cited: Sections 21083 and 21087, Public Resources Code. Reference: Sections 21083(b), 21093, 21094 and 21100, Public Resources Code; *Whitman v. Board of Supervisors,* (1979) 88 Cal. App. 3d 397; *San Franciscans for Reasonable Growth v. City and County of San Francisco* (1984) 151 Cal.App.3d 61; *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692; *Laurel Heights Homeowners Association v. Regents of the University of California* (1988) 47 Cal.3d 376; *Sierra Club v. Gilroy* (1990) 220 Cal.App.3d 30; *Citizens to Preserve the Ojai v. County of Ventura* (1985) 176 Cal.App.3d 421; *Concerned Citizens of South Cent. Los Angeles v. Los Angeles Unified Sch. Dist.* (1994) 24 Cal.App.4th 826; *Las Virgenes Homeowners Fed'n v. County of Los Angeles* (1986) 177 Cal.App.3d 300; *San Joaquin Raptor/Wildlife Rescue Ctr v. County of Stanislaus* (1994) 27 Cal.App.4th 713; *Fort Mojave Indian Tribe v. Cal. Dept. Of Health Services* (1995) 38 Cal.App.4th 1574; and *Communities for a Better Environment v. California Resources Agency* (2002) 103 Cal.App.4th 98.

Discussion: This section is necessary to explain how to discuss cumulative impacts in an EIR. The section limits the discussion to situations where the cumulative effects are found to be significant. Further, the section codifies the requirements for analysis of cumulative effects as spelled out in *Whitman v. Board of Supervisors*, cited in the note, but the section allows the alternative approach of summarizing projections from a planning document. The options allow the Lead Agency to choose the method of analysis that may be best suited to the situation at hand. Essential guidance is also provided on approaches to mitigating cumulative effects, since cumulative effects can rarely be mitigated in the same way as the primary effects of an individual project.

When analyzing the cumulative impacts of a project under 15130 (b)(1)(A), the Lead Agency is required to discuss not only approved projects under construction and approved related projects not yet under construction, but also unapproved projects currently under environmental review with related impacts or which result in significant cumulative impacts. This analysis should include a discussion of projects under review by the Lead Agency and projects under review by other relevant public agencies, using reasonable efforts to discover, disclose, and discuss the other related projects. The cumulative impact analysis requires a discussion of projects with related cumulative impacts which required EIRs, Negative Declarations, or were exempt from CEQA. (See: *San Franciscans for Reasonable Growth v. City and County of San Francisco*, (1984) 151 Cal. App. 3d 61.) The court in SFFRG took note of the problem of where to draw the line on projects undergoing environmental review since application of new projects are constantly being submitted. A reasonable point might be after the preparation of the draft EIR. Additional project information could be included in the final EIR if cumulative impacts were originally analyzed in the draft EIR and if the new project information doesn't warrant the preparation of a subsequent or supplemental EIR as required by Section 15162 of the Guidelines.

Subsection (b)(1)(B) authorizes a lead agency to limit its analysis of probable future projects to those which are planned or which have had an application made at the time the NOP is released for review. This describes a reasonable point in time at which to begin the cumulative impact analysis. Without this guideline, the cumulative impact analysis may suffer frequent revision as new, incremental projects are identified. If additional projects are identified later, they may be addressed during completion of the final EIR.

Cumulative impacts analysis must include reasonably anticipated future activities of a project or associated with the project. Whether these activities are addressed in the cumulative impact analysis section or in the impacts associated with the project, as defined, if there is substantial evidence indicating reasonable foreseeable future projects or activities, an EIR must analyze the impacts of those future activities. The Court in *Laurel Heights* set forth the following two pronged test to determine whether an EIR must include

an analysis of the environmental effects of future activities: (1) it is a reasonably foreseeable consequence of the initial project; and (2) the future action will be significant in that it will likely change the scope or nature of the initial project or its environmental effects. Absent these two circumstances, potential future expansion need not be considered. *Laurel Heights Improvement Association v. Regents of the University of California* (1988) 47 Cal. 3d 376.

Consistent with the holding in *Antioch v. Pittsburg* (see discussion with Section 15126), a cumulative impact analysis should address the most probable development patterns.

This section describes the analysis necessary where a project will make a considerable contribution to a cumulative effect (see also section 15064). Based on the holding in San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus (1996) 42 Cal.App.4th 608, subdivision (a) provides that when the lead agency determines that a project makes only a de minimus contribution to a cumulative effect no analysis of the cumulative effect is needed. This subsection also provides that an EIR may determine that a projectís contribution, originally thought to be considerable, is less than considerable with mitigation. Any such conclusion must be documented in the EIR.

Subsection (b) discusses the elements necessary for an adequate discussion of significant cumulative impacts. It recommends that the discussion focus on the particular cumulative impact to which other projects contribute rather than on the non-contributing aspects of those projects. This subsection offers further guidance on focusing the discussion on impacts rather than on other projects per se.

Subsection (d) links cumulative impact analysis to tiering and other similar approaches which seek to limit redundant analyses. Where cumulative impacts have been adequately addressed in the EIR certified for a general plan or other programmatic plan, and the project is consistent with that plan, the discussion contained in the prior EIR may be incorporated by reference. No further cumulative impact analysis would be necessary.

EXHIBIT 1

STAFF REPORT
P.C. Agenda
February 28, 2002

STAFF REPORT

Item E-3: PUBLIC HEARING - Use Permit
Case No. UP4-02, Holman Investors, LLC

Data: Holman Investors, LLC, is requesting a Use Permit to allow the off-sale of general alcoholic beverages in a proposed retail store near the northwest corner of Holman Road and Hammer Lane. The vacant, 21.16-acre site is zoned C-2, General Business District, and is bounded to the:

- north across Wakeman Drive by single-family homes and vacant land zoned R-1, Single-Family District;
- east across Holman Road by vacant land zoned C-2;
- southeast by a self-service gasoline station with a mini-mart and fast-food restaurant zoned C-2;
- south across Hammer Lane by a variety of retail uses zoned C-2 and C-A , Commercial-Auto District; and
- west by vacant land zoned R-1 and C-R, Commercial-Residential District (Zoning Map pages 17 and 19). See attached exhibits.

General Plan: The General Plan Diagram designates this site for Commercial uses.

Environmental Clearance: The environmental consequences of developing this site for commercial uses were adequately examined in the previously-approved Final Supplemental Environmental Impact Report (FSEIR1-90/IS4-99) for the Morada Ranch Commercial Project. Based on a review of those documents, no further environmental analysis is necessary.

Discussion: The applicant is proposing to develop a retail store with the off-sale of general alcoholic beverages. The applicant's proposal is to construct a 207,559-square foot

building on the north portion of the project site. The building will contain a retail center, a garden center, an auto center and a seasonal sales area. A majority of the building will be occupied by the retail center. The garden center, auto center and seasonal sales area will be located on the east side of the commercial building. Because the retail center does not have a specific tenant, the proposed business hours for the center will be tentatively 24 hours, seven days a week.

With respect to parking, the proposed retail center is required to have a total of 823 spaces. The project site will be provided with a 1,031-space parking lot, which exceeds the City parking requirement.

The project site is located in Census Tract 35.00. Based upon the population in that geographic area, the State Department of Alcoholic Beverage Control (ABC) has determined that six off-sale alcoholic beverage establishments are allowed within the census tract. There are currently seven active off-sale establishments within the census tract. Since the number of approved off-sale liquor licenses exceeds the limit set by ABC, an "undue concentration" exists and a special finding of public convenience or necessity is required from the Planning Commission in order to approve the Use Permit.

Section 16-086.A of the Zoning Code lists the off-sale of alcoholic beverages as a "problem use" and Section 16-086.B requires that the following criteria be considered before the Use Permit can be approved:

1. The proposed use with respect to the proximity and type of other enumerated uses;

2. The effect of dispersal or concentration of enumerated uses in the general area;

3. The effect that the proposed use is likely to have on the neighborhood;

4. The compatibility of the proposed use with the surrounding institutional, business and residential uses with respect to noise and/or traffic and/or visual impact and other relevant factors;

5. The potential of the proposed use to create or increase loitering or vandalism in the area; and

6. The degree that traffic safety both on and off-site will be adversely affected by the proposed activity.

The Police Department, other City departments, the State Department of Alcoholic Beverage Control and the surrounding neighborhood have been notified of this request. The Public Works and Police Departments have recommended that the Use Permit, if approved, be subject to specific conditions that have been included in the proposed Conditions of Approval. As of the writing of the staff report, no letters of opposition have been received from any of the notified agencies or from the surrounding neighborhood.

Recommendation: Approval based on the following findings and subject to the proposed conditions as enumerated below:

1. The proposed use is consistent with applicable General Plan Policies and with the site's Commercial General Plan designation.

2. The proposed use meets zoning code requirements, subject to approval of a Use Permit, and has been reviewed in accordance with Sections 16-083.B and 16-086.B of the Stockton Municipal Code and the affirmative findings required under Section 16-086.C are hereby adopted.

3. The proposed use is expected to be compatible with existing and planned land uses in the vicinity of the project site and is not likely to interfere with the comfortable enjoyment of life or property in the area.

4. The proposed use will not be detrimental to the health, safety, peace or general welfare of persons residing or working in the neighborhood or be detrimental or injurious to the health, safety, peace or general welfare of the City.

5. Public convenience will be served by the issuance of this Use Permit.

6. The City of Stockton has reviewed and considered the Final Supplemental Environmental Impact Report for the Morada Ranch Commercial Project (SEIR1-90/IS4-99) and has certified the document as being adequate for approval of the proposed project. With the exception of the unavoidable or unresolved adverse effects of the project, all other potentially adverse environmental effects of the subsequent development of the area will mitigated to an acceptable level through project design and/or by enforceable conditions of approval on associated discretionary permits.

Proposed Conditions:

1. Comply with applicable Federal, State, County and City codes, regulations and adopted standards and pay all applicable fees.

2. In the event the sale of alcoholic beverages or operation of this use proves detrimental to the health, safety, peace or general welfare of the surrounding neighborhood, this Use Permit shall be subject to revocation or modification as provided in the Zoning Code.

3. The sale of alcohol for consumption on the premises shall not be permitted.

4. All outside pay phones shall be restricted to outgoing calls only.

5. The business shall post E.A.S.Y. (Eliminate Alcohol Sales to Youth) materials that are visible from outside of the business.

6. Any graffiti on the property shall be removed within twenty-four (24) hours.

7. Every new employee involved in the sale of alcoholic beverages shall complete L.E.A.D. (Licensing Education of Alcohol and Drugs) training through the local office of the State Department of Alcoholic Beverage Control within six months of the employee's hire date.

8. The Use Permit shall be posted in a conspicuous place and shall be immediately made available to City personnel upon inspection of the premises.

9. Comply with all applicable conditions of TM3-92.

10. The Hammer Lane driveway located approximately 350 feet west of Holman Road shall be designed and constructed to prevent cross traffic for a minimum of 100 feet on the west side of the driveway measured from the ultimate Hammer Lane right-of-way.

11. The proposed eastern Wakeman Drive access shall be reduced to a maximum width of 40 feet. The proposed western Wakeman Drive access shall be reduced to a maximum width of 35 feet. In order to accommodate truck traffic the City of Stockton Standard Drawing No. 38 driveway can be modified to include 20-foot radius curb returns.

12. Outdoor storage containers or trailers on the premises shall not be permitted. Trucks and trailers may only use or access the site for loading and unloading

purposes. After completion of the loading and unloading on the loading docks, the trucks and/or trailers shall be removed from the premises within 24 hours.

13. A minimum six-foot and eight-foot high masonry wall shall be installed along the west property line, from the south side of P.U.E. on Wakeman Drive, south for a distance of approximately 560 feet, as shown on the site plan, to buffer the adjacent R-1 zoned property from the C-2 zoned project site. A minimum ten-foot high solid and continuous masonry wall, or a combination berm and masonry wall shall be installed along the south side of Wakeman Drive (south of ten-foot P.U.E.), between the two proposed driveways on Wakeman Drive. In addition, the masonry wall, or combination berm and masonry wall, shall be reduced to six-feet in height between the east property line and the easterly driveway on Wakeman Drive. Graffiti-resistant paint shall be applied to both sides of the masonry wall. A minimum ten-foot wide landscaped strip (existing ten-foot wide P.U.E.) shall be installed between the property line and the wall on Wakeman Drive. A three-foot high vegetative screen containing evergreen shrubs, groundcover and vines shall be provided along the street side of the wall. In addition, evergreen trees (at a minimum of 15 gallon size), of no less than 30 feet in height at maturity and spaced no more than 30 feet apart, shall be planted between the back of the sidewalk and the wall. The portion of the landscaped strip behind (south of) the masonry wall shall be planted with evergreen shrubs and groundcover. A timed, automatic irrigation system shall be installed and maintained in the landscaped strip. The masonry wall, landscaping and irrigation system shall be maintained in a manner so as not to be blighted or deteriorated.

14. All masonry walls and landscaped areas shall comply with applicable requirements of the Stockton Municipal Code. Masonry wall, landscaping and irrigation plans shall be submitted to the Community Development Department, Planning Division, for review and approval by the Community Development Director, the Public Works Director and the City's Landscape Architect prior to the issuance of building permits. Masonry walls and landscaped areas, including irrigation systems, shall be installed prior to the issuance of the Certificate of Occupancy for the project.

15. All signs shall be subject to approval by the Community Development Director or Planning Commission.

16. There shall be no chain-link fencing or similar material visible from a public right-of-way. There shall be no barbed/concertina wire or similar material located on the property.

17. Structures and other improvements shall be constructed/installed in accordance with the approved site plan, floor plans, elevations, conditions of approval and color rendering and be maintained in a manner so as not to be blighted or deteriorated.

18 All lighting on the subject site shall be shielded so as not to shine onto nearby/adjacent residential properties.

19. Pursuant to Section 15074 of the State CEQA Guidelines, the project shall be subject to all applicable mitigation measures identified in the City-adopted Final Supplemental Environmental Impact Report (FSEIR1-90/IS4-99) and the Findings and Mitigation Monitoring/Reporting Program for the Morada Ranch Commercial Project.

20. A minimum of two state-licensed, insured and uniformed security officers shall be provided and on duty during all hours of operation. At least one of the officers shall provide security to the immediate area surrounding the exterior of the building and including the parking areas.

February 20, 2002

Note: Staff reports are prepared well in advance of the Planning Commission consideration of the proposal and reflect the staff's view based on the best available information at the time the report was formulated. Evidence submitted during the course of the public hearing may require a re-evaluation of the staff's position.

Staff Report prepared by Associate Planner Jenny Liaw.

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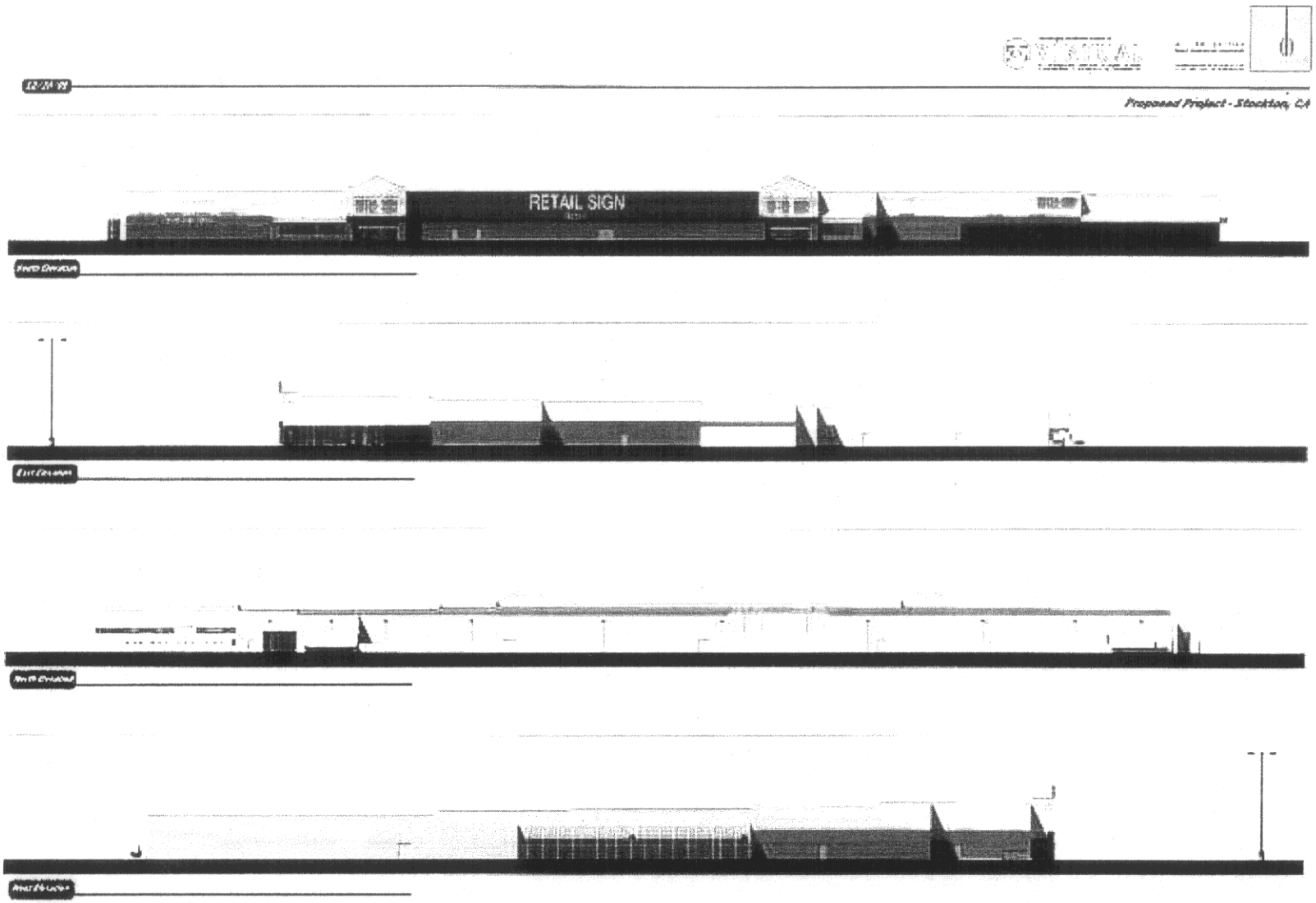
EXHIBIT 11

UP 4-02

EXHIBIT 12



UP 4-02

2b

CITY OF STOCKTON
Community Development D... ...nt/Planning Division
425 North El Dorado Street
Stockton, CA 95202-1997
Tel: (209) 937-8266 Fax: (209) 937-8893

USE PERMIT NO. UP4-02

DATE APPROVED: February 28, 2002

ISSUED TO: Holman Investors, LLC
Attn: Matt Arnaiz
3158 Auto Center Circle, Suite E
Stockton, CA 95212

DESCRIPTION OF USE: To allow the off-sale of general alcoholic beverages in a proposed retail store

PROPERTY LOCATION: Near the northwest corner of Hammer Lane and Holman Road

PROPERTY ZONED: C-2 APN: 092-080-22 CT: 34.10 TZ: 14 BL: 01 PA: 80

CONDITIONS OF APPROVAL:

NOTE: THIS PERMIT IS ISSUED PURSUANT TO THE PROVISIONS OF PART II, CHAPTER 16, SMC AND IS SUBJECT TO THE CONDITIONS OF APPROVAL AND ATTACHED DEVELOPMENT PLAN. USE OR CONSTRUCTION MUST BE COMMENCED WITHIN ONE YEAR AFTER THE DATE OF APPROVAL OR AN EXTENSION MUST BE GRANTED AS PROVIDED IN THIS CHAPTER; OTHERWISE, THIS PERMIT SHALL BE NULL AND VOID. THIS PERMIT IS SUBJECT TO REVOCATION AND/OR MODIFICATIONS AS PROVIDED IN THIS CHAPTER.

1. Comply with applicable Federal, State, County and City codes, regulations and adopted standards and pay all applicable fees.

2. In the event the sale of alcoholic beverages or operation of this use proves detrimental to the health, safety, peace or general welfare of the surrounding neighborhood, this Use Permit shall be subject to revocation or modification as provided in the Zoning Code.

3. The sale of alcohol for consumption on the premises shall not be permitted.

4. All outside pay phones shall be restricted to outgoing calls only.

5. The business shall post E.A.S.Y. (Eliminate Alcohol Sales to Youth) materials that are visible from outside of the business.

6. Any graffiti on the property shall be removed within twenty-four (24) hours.

7. Every new employee involved in the sale of alcoholic beverages shall complete L.E.A.D. (Licensing Education of Alcohol and Drugs) training through the local office of the State Department of Alcoholic Beverage Control within six months of the employee's hire date.

FILE COPY

8. The Use Permit shall be posted in a conspicuous place and shall immediately be made available to City personnel upon inspection of the premises.

9. Comply with all applicable conditions of TM3-92.

10. The Hammer Lane driveway located approximately 350 feet west of Holman Road shall be designed and constructed to prevent cross traffic for a minimum of 100 feet on the west side of the driveway measured from the ultimate Hammer Lane right-of-way.

11. The proposed eastern Wakeman Drive access shall be reduced to a maximum width of 40 feet. The proposed western Wakeman Drive access shall be reduced to a maximum width of 35 feet. In order to accommodate truck traffic, the City of Stockton Standard Drawing No. 38 driveway can be modified to include 20-foot radius curb returns.

12. Outdoor storage containers or trailers on the premises shall not be permitted. Trucks and trailers may only use or access the site for loading and unloading purposes. After completion of the loading and unloading on the loading docks, the trucks and/or trailers shall be removed from the premises within 24 hours.

13. A minimum six-foot and eight-foot high masonry wall shall be installed along the west property line, from the south side of the P.U.E. on Wakeman Drive, south for a distance of approximately 560 feet, as shown on the site plan, to buffer the adjacent R-1 zoned property from the C-2 zoned project site. A minimum ten-foot high solid and continuous masonry wall, or a combination berm and masonry wall, shall be installed along the south side of Wakeman Drive (south of the ten-foot P.U.E.), between the two proposed driveways on Wakeman Drive. In addition, the masonry wall, or combination berm and masonry wall, shall be reduced to six feet in height between the east property line and the easterly driveway on Wakeman Drive. Graffiti-resistant paint shall be applied to both sides of the masonry wall. A minimum ten-foot wide landscaped strip (existing ten-foot wide P.U.E.) shall be installed between the property line and the wall on Wakeman Drive. A three-foot high vegetative screen containing evergreen shrubs, groundcover and vines shall be provided along the street side of the wall. In addition, evergreen trees (at a minimum of 15 gallon size), of no less than 30 feet in height at maturity and spaced no more than 30 feet apart, shall be planted between the back of the sidewalk and the wall. The portion of the landscaped strip behind (south of) the masonry wall shall be planted with evergreen shrubs and groundcover. A timed, automatic irrigation system shall be installed and maintained in the landscaped strip. The masonry wall, landscaping and irrigation system shall be maintained in a manner so as not to be blighted or deteriorated.

14. All masonry walls and landscaped areas shall comply with applicable requirements of the Stockton Municipal Code. Masonry wall, landscaping plans and irrigation plans shall be submitted to the Community Development Department, Planning Division, for review and approval by the Community Development Director, the Public Works Director and the City's Landscape Architect prior to the issuance of building permits. Masonry walls and landscaped areas, including irrigation systems, shall be installed prior to the issuance of the Certificate of Occupancy for the project.

15. All signs shall be subject to approval by the Community Development Director or Planning Commission.

16. There shall be no chain-link fencing or similar material visible from a public right-of-way. There shall be no barbed/concertina wire or similar material located on the property.

17. Structures and other improvements shall be constructed/installed in accordance with the approved site plan, floor plans, elevations, conditions of approval and color rendering and be maintained in a manner so as not to be blighted or deteriorated. In addition, an appropriate parking lot maintenance and litter control program shall be implemented.

18. All lighting on the subject site shall be shielded so as not to shine onto nearby/adjacent residential properties.

19. Pursuant to Section 15074 of the State CEQA Guidelines, the project shall be subject to all applicable mitigation measures identified in the City-adopted Final Supplemental Environmental Impact Report (FSEIR1-90/IS4-99) and the Findings and Mitigation Monitoring/Reporting Program for the Morada Ranch Commercial Project.

cc: Doucet & Associates, Inc.
Attn: Rick Chavez
3300 Douglas Boulevard, Suite 475
Roseville, CA 95661

APPROVED: Michael M. Niblock

DATE ISSUED: MARCH 12, 2002

cc: PUBLIC WORKS-TECH PLANNING BUSINESS LICENSE FIRE POLICE ABC FILE COPY

JL:nw

NOTICE: To protest the imposition of any development fee, dedication, reservation or other exaction imposed on your project, you must file written notice with the City Clerk's office within 90 days after approval of the project or imposition of the fees, dedications, reservations or other exactions stating that the required payment is tendered or will be tendered when due, or that any conditions which have been imposed are provided for or satisfied, under protest, along with a statement of the factual elements of the dispute and the legal theory forming the basis for the protest.

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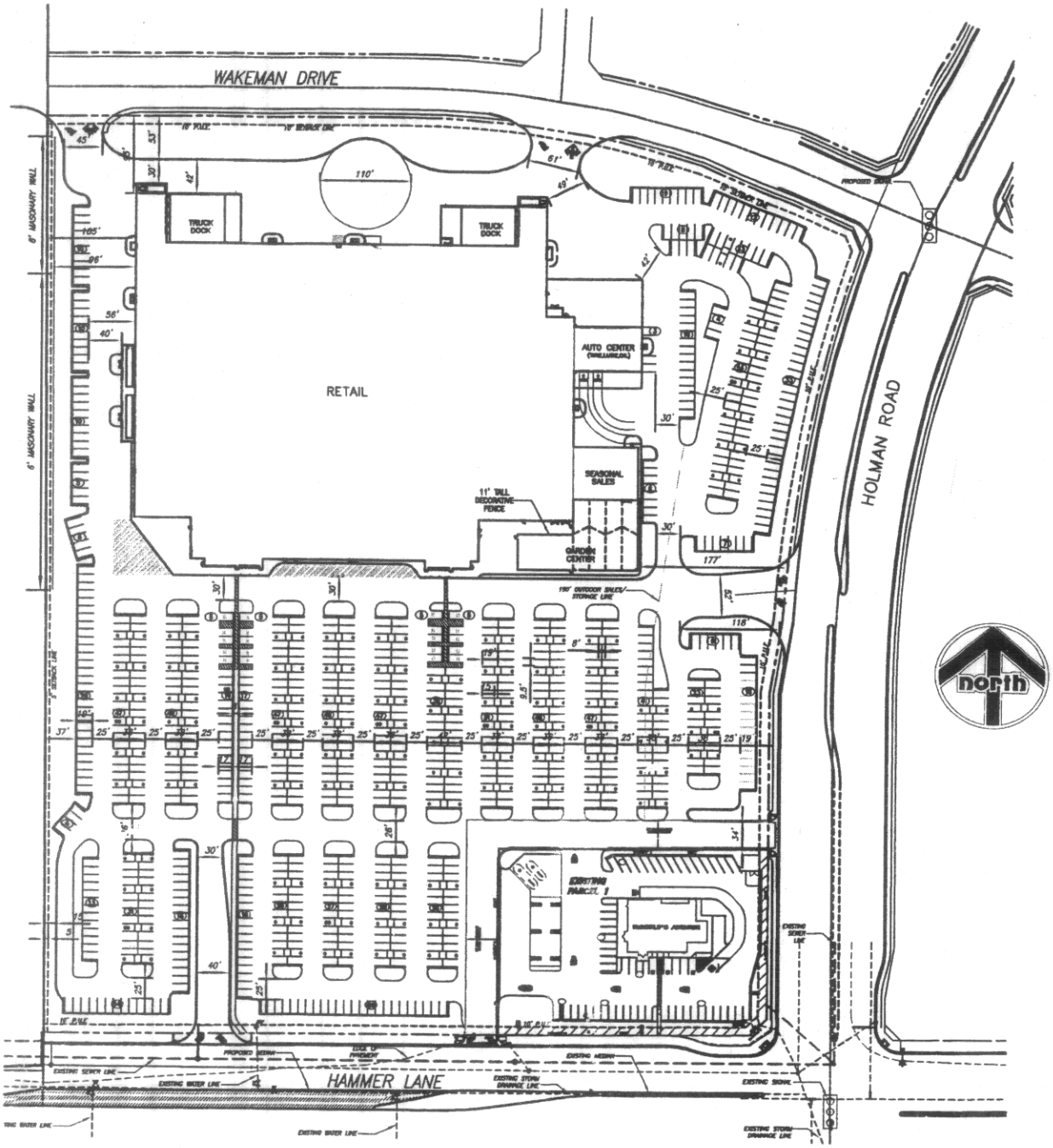
EXHIBIT 4



SITE PLAN

Holman Investors, LLC
UP 4-02

PERMIT NO. UP4-02
DATE ISSUED APPROVED 2-28-02
COMMUNITY DEVELOPMENT DEPARTMENT
PLANNING DIVISION
EL DORADO STREET
PH: 2-28-02

STOCKTON CITY PLANNING COMMISSION

2c

CITY OF STOCKTON
NOTICE OF DETERMINATION

ASSESSOR RECORDER
COUNTY CLERK
GARY W. FREEMAN
02 MAR -4 PM 3:49
SAN JOAQUIN COUNTY
BY Patricia Paulsen
DEPUTY

TO: ☒ County Clerk
San Joaquin County

☐ Office of Planning and Research
P.O. Box 3044
Sacramento, CA 95812-3044

FROM: Lead Agency
City of Stockton
c/o Community Development Department
Planning Division
425 North El Dorado Street
Stockton, CA 95202-1997

Contact Person: Jenny Liaw, Associate Planner

Phone: (209) 937-8266

SUBJECT: NOTICE OF DETERMINATION PURSUANT TO PUBLIC RESOURCES CODE, SECTION 21152 AND CAL. CODE OF REGULATIONS, TITLE 14, SECTIONS 15075, 15091, 15093, 15094, AND/OR 15096(i)

Project Title: Holman Investors, LLC Use Permit Project
City of Stockton EIR and/or IS File No(s).: Previously-approved FSEIR1-90/IS4-99
SCH No.: N/A
Discretionary Application(s) File No.(s): UP4-02

Project Applicant: Doucet and Associates, Inc.

Project Description/Location: Use Permit to allow the off-sale of general alcoholic beverages in a proposed retail store near the northwest side of Hammer Lane and Holman Road.

DETERMINATIONS: This is to advise that the City of Stockton, as a Lead Agency under the California Environmental Quality Act (CEQA), approved the above-described project/action on February 28, 2002, and has made the following determinations regarding the project:

1. The project (☒ will) (☐ will not) have a significant effect on the environment.
2. ☒ An environmental impact report was prepared and certified for this project pursuant to the provisions of CEQA.
   ☐ A Negative Declaration was prepared and adopted for this project pursuant to the provisions of CEQA.
3. Findings (☒ were) (☐ were not) made pursuant to Cal. Code of Regulations, Title 14, Section (☐ 15091-EIR) (☐ 15075-Neg Dec) and Mitigation measures (☒ were) (☐ were not) incorporated as part of the approval of the project.
4. Mitigation Monitoring and Reporting Program (☒ was) (☐ was not) adopted for this project.
5. Statement of Overriding Considerations (☒ was) (☐ was not) adopted for this project.
6. Pursuant to Cal. Code of Regulations, Title 14, Sections 753.5(a) or 753.5(c):
   ☐ California Department of Fish and Game (CDFG) fees are required, as applicable, and will be filed with this Notice of Determination (NOD); or
   ☐ This project is exempt from the CDFG fees and a Certificate of Fee Exemption has been prepared and will be filed with this NOD.
   ☒ CDFG Fees were filed with a prior NOD for this project/proposal (see attached receipt).

This is to certify that the environmental documentation and determinations for the project/action and any related mitigation measures, monitoring provisions, findings and statements of overriding consideration have been adopted on the basis of the whole record before the City and reflect the City's independent judgement and analysis. The environmental review record and record of project approval may be examined at the above-noted Lead Agency address.

ROGER A. STOREY
DEPUTY CITY MANAGER/
INTERIM COMMUNITY DEVELOPMENT DIRECTOR

By: Jenny Liaw
JENNY LIAW, ASSOCIATE PLANNER

Date: March 1, 2002

AFFIDAVIT OF FILING AND POSTING

I declare that on the date stamped above, I received and posted this notice as required by California Public Resources Code Section 21152(c). Said notice will remain posted for 30 days from the filing date.

Signature: Patricia Paulsen
Posting Period Ending Date: 4/6/02

Title: DEPUTY COUNTY CLERK

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Copy mailed to Applicant 3/6/02

EXHIBIT 1

STAFF REPORT
P. C. Agenda
April 8, 2004

STAFF REPORT

Item E-4: PUBLIC HEARING – Use Permit
Case Nos. UP15-04, A.G. Spanos Construction, Inc.

Data: A.G. Spanos Construction, Inc., on behalf of Doucet and Associates, Inc., is requesting a Use Permit to allow the off-sale of beer and wine (Phase I) and general alcohol beverages (Phase II) in conjunction with an approved by-right retail store on property generally located at the northwest corner of Trinity Parkway and Consumnes Drive (10355 Trinity Parkway). The approximately 22.4-acre site is currently vacant, zoned M-X, Mixed Use District, and is bounded to the:

- north by a vacant parcel zoned M-X;
- east across Trinity Parkway by the Park West Place shopping center, zoned M-X;
- south across Consumnes Drive by a vacant parcel intended for an eventual public park use and an apartment complex zoned M-X; and
- west across a one-hundred foot landscaped buffer area and power line easement by single-family residences zoned R-1, Single-Family District (Zoning Map page 1). See attached exhibits.

General Plan: The General Plan designates this site for Mixed Uses.

Environmental Clearance: The environmental consequences of developing the Spanos Park West Project were adequately examined in a previously-approved Supplemental Environmental Impact Report/Initial Study (SEIR3-87/IS13-00). Based on a review of those documents, the proposed project has been adequately addressed and no further environmental analysis is necessary.

Discussion: As background, General Plan amendment (GPA3-00), rezoning (Z-4-00), Master Development Plan (MDP1-00), and Development Agreement (DA1-00) applications were recommended for approval by the Planning Commission on December 20, 2001, and approved by the City Council on January 29, 2002. The noted approvals allow for the establishment and operation of a retail store as a by-right use, subject to site plan review in order to verify consistency with the A.G. Spanos Business Park Master Development Plan. Staff conducted a site plan review on the project to assure that it is in substantial conformance with the noted Master Development (MDP1-00). However, MDP1-00 requires that a Use Permit be approved by the Planning Commission to allow the off-sale of alcoholic beverages. The proposed use is consistent with MDP1-00 and the Planning and Zoning Code subject to approval of this Use Permit.

The 138,272-square foot initial phase of the retail store will be located on the south end of the project site. The applicant has requested a Use Permit to allow the off-sale of beer and wine (Type 20 license) for Phase I of the project. However, the applicant has indicated during Phase I, the tenant will only sell wine and wine coolers, and no beer will be sold. Phase II will involve the expansion of the retail store by adding 68,888-square feet, for a total of 207,160-square feet. In conjunction with Phase II of the project, the applicant has requested the off-sale of general alcoholic beverages. The applicant has indicated that the each phase of the retail store will operate 24 hours a day, seven days a week although alcoholic beverage sales will be prohibited between 2 a. m. and 6 a.m.

With respect to parking, the overall 207,160-square foot retail store, is required by MDP1-00 (consistent with the Planning and Zoning Code) to provide a total of 822 on-site parking spaces, based upon the requirement for thirteen spaces plus one additional space for each 250 square feet of gross floor area (GFA) in excess of five thousand square feet for the retail uses. The project site will be provided with a 1,037-space parking lot, which exceeds the noted parking requirements. Access to the site will be provided by three proposed driveways on the west side of Trinity Parkway and one driveway on the north side of the Consumnes Drive.

According to SMC Section 16-086, the off-sale of beer, wine and general alcohol are considered "problem uses" and the following criteria must be considered before the uses can be approved:

1. The proposed use with respect to the proximity and type of other enumerated uses;
2. The effect of dispersal or concentration of enumerated uses in the general area;
3. The effect that the proposed use is likely to have on the neighborhood;
4. The compatibility of the proposed use with the surrounding institutional, business and residential uses with respect to noise and/or traffic and/or visual impact and other relevant factors;
5. The potential of the proposed use to create or increase loitering or vandalism in the area; and
6. The degree that traffic safety both on and off-site will be adversely affected by the proposed activity.

The project site is located in Census Tract 40.02. Based upon the population in that geographic area, the State Alcoholic Beverage Control Department (ABC) has determined that two off-sale alcoholic beverage establishments are allowed in the census tract. There is one active off-sale establishment within the census tract. The applicant is proposing to secure a Type 20 license (off-sale of beer and wine) from the State Department of Alcoholic Beverage Control for Phase I, and subsequently replace it with a Type 21 license (off-sale of general alcoholic beverages) for Phase II. If approved, the applicant's request will **not** result in an "undue concentration."

The Police Department, the Public Works Department, other City departments, the State Department of Alcoholic Beverage Control and the neighborhood have been notified of this request. As of the writing of this staff report, no objections have been received concerning

this request. The Police Department and the Public Works Department have submitted memorandums with recommended conditions that have been incorporated into the staff report's "Proposed Conditions."

Recommendation: Approval based on the following findings:

1. The proposed use is consistent with all applicable goals, policies and standards of the City's adopted General Plan Policy Document, the site's Mixed Use General Plan Diagram designation, and MDP1-00 for the A.G. Spanos Business Park.

2. The proposed use is in compliance with the Zoning Code requirements, subject to approval of a Use Permit, and has been reviewed in accordance with Sections 16-083.B and 16-086.C of the Stockton Municipal Code and the affirmative findings required under Sections 16-086.B are hereby adopted.

3. The proposed use is expected to be compatible with the surrounding land uses and is not likely to interfere with the comfortable enjoyment of life or property in the area, subject to any applicable mitigation measures specified in SEIR3-87/IS13-00 and the previously adopted "Findings and Mitigation Monitoring and Reporting Program for the Spanos Park West Project."

4. The proposed use will not be detrimental to the health, safety or general welfare of persons residing or working in the neighborhood or be detrimental or injurious to the health, safety, peace or general welfare of the City.

5. The environmental consequences of development within the Spanos Park West Project area have been previously considered by Supplemental Environmental Impact Report/Initial Study (SEIR3-87/IS13-00) which was certified by the Planning Commission on December 20, 2001, and the City Council on January 29, 2002, for their respective approvals. With the exception of the unavoidable or unresolved adverse effects of the project, all other potentially adverse environmental effects of the subsequent development of the area will be mitigated to an acceptable level through project design and/or by enforceable conditions of approval on associated discretionary permits.

Proposed Conditions for Use Permit No. UP15-04:

1. Comply with all applicable Federal, State, County and City codes, regulations and adopted standards and pay all applicable fees.

2. In the event that the sale of alcoholic beverages or operation of this use proves detrimental to the health, safety, peace or general welfare of the surrounding neighborhood, this Use Permit shall be subject to revocation or modification as provided in the Zoning Code.

3. The consumption of alcoholic beverages on the premises shall not be permitted.

4. The business shall post E.A.S.Y. (Eliminate Alcohol Sales to Youth) materials that are visible from outside of the business.

5. Every employee involved in the sale of alcoholic beverages shall complete L.E.A.D. training (Licensing Education of Alcohol and Drugs) through the local office of the State Department of Alcoholic Beverage Control within six (6) months of the employee's hire date.

6. There shall be no chain-link fencing, barbed/concertina wire or similar material visible from a public right-of-way.

7. Structures and other improvements shall be constructed, installed and maintained in accordance with the site plan, floor plans, elevations, color renderings approved with MDP1-00 and with this Use Permit's conditions of approval and be maintained in a manner so as not to be blighted or deteriorated.

8. This Use Permit shall be posted in a conspicuous place and shall be immediately made available to City personnel upon inspection of the premises.

9. Pursuant to Sections 15091, 15093 of the State CEQA Guidelines, approval of this Use Permit is subject to the previously adopted CEQA findings and to the implementation of any applicable required mitigation measures and mitigation monitoring and reporting provisions, respectively, as specified in the "Findings and Mitigation Monitoring/Reporting Program for the Spanos Park West Project" (December 2001).

March 30, 2004

Note: Staff reports are prepared well in advance of the Planning Commission consideration of the proposal and reflect the staff's view based on the best available information at the time the report was formulated. Evidence submitted during the course of the public hearing may require a re-evaluation of the staff's position.

Staff Report prepared by Senior Planner David Stagnaro, AICP.

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MINUTES OF THE
CITY PLANNING COMMISSION

A regular meeting of the City Planning Commission was held on Thursday, April 8, 2004 at 7 p.m., in the Council Chambers, second floor, City Hall, with Chair Emily Bruce presiding.

PRESENT: Chair Emily Bruce, Vice Chair Christopher Kontos, Planning Commissioners Ashland Brown, Frank Cusumano, Salvador Charles Lauron and George Lucas; Community Development Director James Glaser, Deputy Director Michael Niblock and Deputy City Attorney Guy Petzold; Senior Planner David Stagnaro, and Associate Planners Jenny Liaw and Denise Jefferson.

ABSENT: Commissioner Lowery.

Consent Items:

Deputy Director Michael Niblock indicated that the minutes of the regular Planning Commission meetings of January 8, February 26, and March 25 were not available and requested they be removed from the Consent Calendar.

MOTION: It was duly moved (Lauron), seconded (Cusumano) and carried 6 to 0 (Lowery absent) to approve the following consent items:

1. Approval of the minutes for the meetings of January 22 and February 12, 2004.

2. HOME OCCUPATION PERMIT REVIEW (SIX-MONTH) CHRISTOPHER BAKER (HOP102-03) - Home occupation to allow a home office for a DVD/video editing and reproduction business with no on-site customers, storage of merchandise, commercial editing, copying equipment or non-resident employees at 9538 Battleview Court.

Item E-1: Public hearing regarding the request of Sage and Kumi Sungail for a Home Occupation Permit to allow a home office for an accounting, bookkeeping, tax preparation and private investigation business with no on-site customers or non-resident employees at 4240 Inlet Road (HOP6-04).

The public hearing was declared open and the Affidavit of Mailing was filed.

Associate Planner Jenny Liaw summarized the staff report.

Commissioner Kontos stepped down due to a potential conflict of interest.

Sage Sungail, 4240 Inlet Road, spoke briefly in favor of the application and explained further the nature of his business. He assured the Commission that there would be no on-site customers and respectfully requested their approval of the request.

No one else desired to be heard and the public hearing was closed.

MOTION: It was duly moved (Lauron), seconded (Cusumano) and carried 5 to 0 (Lowery absent, Kontos abstaining) to approve the home occupation request of Sage and Kumi Sungail (HOP6-04), based on the findings and subject to the conditions as listed in the staff report.

Item E-2: Public hearing regarding the request of GTA Thornton Road Venture, for a tentative subdivision map to subdivide an approximately one-acre parcel into two parcels, for property located on the west side of Thornton Road, approximately 290 feet south of Hacienda Drive (TM4-04).

The public hearing was declared open and Affidavits of Mailing and Publication were filed.

Associate Planner Denise Jefferson summarized the staff report.

Zachary Wong, Wong Engineers, Inc. 4578 Feather River Drive, spoke briefly in favor of the application, answered questions regarding parking and requested the Commission's approval.

No one else desired to be heard and the public hearing was closed.

MOTION: It was duly moved (Lauron), seconded (Cusumano) and carried 6 to 0 (Lowery absent) to approve the tentative map request of GTA Thornton Road Venture (TM4-04), based on the findings and subject to the conditions as listed in the staff report.

Item E-3: **Public hearing regarding the request of Lawren Ali Brice for a tentative subdivision map to subdivide a 14,434-square foot parcel into two parcels, for property located on the west side of Mary Avenue, approximately 250 feet north of Wait Avenue (3507 Mary Avenue) (TM5-04).**

The public hearing was declared open and Affidavits of Mailing and Publication were filed.

Associate Planner Jenny Liaw summarized the staff report.

Applicant Lawren Ali Brice, 3507 Mary Avenue, spoke briefly in favor of the application and explained the reason for the request.

No one else desired to be heard and the public hearing was closed.

MOTION: It was duly moved (Cusumano), seconded (Kontos) and carried 6 to 0 (Lowery absent) to approve the tentative map request of Lawren Ali Brice (TM5-04), based on the findings and subject to the conditions as listed in the staff report.

(The Commission recessed at 7:20 p.m. and reconvened at 7:25 p.m.)

(Guy Petzold arrived at the meeting at 7:25 p.m.)

Item E-4: **Public hearing regarding the request of A. G. Spanos Construction, Inc., for a Use Permit to allow the off-sale of beer and wine (Phase 1) and general alcoholic beverages (Phase 2) in conjunction with a 207,000± square foot retail store located at 10355 Trinity Parkway within the Spanos Park West Project (UP15-04).**

The public hearing was declared open and the Affidavit of Mailing was filed.

Senior Planner David Stagnaro summarized the staff report and recommended that Condition No. 6 be removed, as it is unnecessary.

Commissioners Kontos, Brown and Chair Bruce indicated they were contacted by a representative of the applicant regarding this application.

The applicant's representative, Gerald Sperry, 1340 West Robinhood Drive, Suite B5, spoke briefly in favor of the application and explained more

about the project pointing out that the matter before the Commission was a request for a Use Permit to allow the off-sale of beer and wine and general alcoholic beverages in conjunction with a 207,000± square foot retail store.

Attorney William D. Kopper, 417 E Street, Davis, representing the Stockton Citizens for Sensible Planning, spoke briefly in objection to the application. He presented a supplemental traffic report stating that it differed from the one in the Commissioners packets, in that it provided a look at the traffic upon the completion of Phases I and II. He then provided an aerial picture showing parking and open space as it relates to this project and stated that the Environmental Impact Report does not support 207,000 square feet of retail in this location.

Brian Kenny, 6705 Montauban Avenue, spoke briefly and stated that he was in opposition to the project.

Lawrence Maykel, 1604 South American, Apt. #2, spoke briefly from a neutral position. He spoke on behalf of several docents at the Oak Grove Nature Center, expressing concerns with traffic already generated from existing developments. He requested more time be allowed to review this application before a decision is made.

Mr. Sperry then provided a brief rebuttal indicating a plan is included for future traffic improvements which should relieve the current situation. He also provided the Commission with more information regarding the group being represented by Attorney Kopper and suggested how he might better address the issues his clients had regarding this application.

Commissioner Lucas then asked Deputy City Attorney Petzold for clarification as to what specifically the Commission would be voting on in regards to this application. Deputy Attorney Petzold responded that this application was basically a request for a Use Permit to sell alcohol.

Commissioner Kontos questioned what the City's position would be in the event of any legal action that might be taken. Deputy Attorney Petzold stated that in regards to the legality of this application, it is a legal use, subject to the approval of a Use Permit for the sale of alcoholic beverages.

No one else desired to be heard and the public hearing was closed.

MOTION: It was duly moved (Lucas), seconded (Kontos) and carried 5 to 1 (Lowery absent, Bruce dissenting) to approve the Use Permit request of A. G. Spanos Construction, Inc. (UP15-04), based on the findings and subject to the conditions as listed in the staff report, including the elimination of Condition No. 6.

OTHER BUSINESS

Chair Bruce indicated that her schedule during the following month would not allow for her to attend any Monday, Tuesday or Wednesday night meetings. She respectfully requested this be taken into consideration when scheduling any future meetings/workshops during that period.

Director Glaser reminded the Commission of the Special Workshop on the General Plan that will be held in the Council Chambers at 5:30 p.m. prior to the regular Planning Commission meeting on April 22, 2004.

Director Glaser added that the final draft of the Development Code, reflecting all of the changes as approved by the Commission, will be available at the next regular Planning Commission meeting on April 22, 2004, for their final decision and recommendation to Council.

Director Glaser stated that a summary of the projects involved in the Capital Improvement Program (CIP) will be provided to the Commission as soon as it is available. He added that the Commission's main role in this process is reviewing this program for it's consistency with the General Plan.

Chair Bruce recommended that on the CIP project and others in the future where the timeframe is limited, staff submit the information to the Commissioners via e-mail when possible to facilitate the process and any Commissioners not having access to e-mail could have a copy mailed or hand-delivered to them. She then requested her fellow Commissioners provide their e-mail addresses to the recording secretary at the close of the meeting. Director Glaser indicated that future information, when applicable, would be e-mailed to the Commissioners in order to expedite the review process, with copies being delivered to the Commissioners not having e-mail.

COMMISSIONER'S SUGGESTION

Chair Bruce expressed the desire to end most future meetings by 9:30 p.m. Deputy City Attorney Petzold indicated that Planning Commission policy states that after 11 p.m. no new items be addressed unless it is the desire of the Commission.

ADJOURNMENT

There being no further business, the meeting was adjourned at 8:30 p.m.

Respectfully submitted,

James E. Glaser, Secretary
City Planning Commission

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MINUTES
CONCURRENT CITY COUNCIL/
REDEVELOPMENT AGENCY
JUNE 22, 2004

CITY HALL
CITY COUNCIL CHAMBERS
STOCKTON, CALIFORNIA

1. CC/RD CALL TO ORDER/ROLL CALL (05:32 PM)

Roll Call (05:33 PM)
Present:
Podesto, Mayor
Bestolarides, Councilmember
Nomura, Vice-Mayor
Nickerson, Councilmember
Ruhstaller, Councilmember
Martin, Councilmember
Giovanetti, Councilmember

2. CC/RED REPORT OF ACTION TAKEN IN CLOSED SESSION - None. (05:32 PM)

3. INVOCATION/PLEDGE TO FLAG - Vice Mayor Nomura/Councilmemer Nickerson (05:33 PM)

4. PROCLAMATIONS/COMMENDATIONS/CITY ANNOUNCEMENTS OR INVITATIONS (05:35 PM)

4.01) SERVICE PIN PRESENTATION:

Paula Cazale – 30 Years

Janet Salvetti - 35 Years
(05:34 PM)
Paula Cazale Service Pin presentation (05:34 PM)
Janet Salvetti Service Pin presentation (05:39 PM)

4.02) CERTIFICATES OF RECOGNITION:

GIRL SCOUTS OF AMERICA GOLD AWARD & SENIOR ROSE AWARD
Recipients: Susannah Stoffels, Girl Scout Troop 220 and Clarissa Thomas, Girl Scout Troop 220 (05:45 PM)

5. CITIZENS' COMMENTS, ANNOUNCEMENTS OR INVITATIONS (05:47 PM)

Betty Wilson (05:48 PM)

Ms. Wilson of Driftwood Place spoke on the bus situation, stating that the bus company has not grown with the City and she has had to wait as long as an hour for a ride. She said she wrote Ms. Donna Kelsey of the San Joaquin Regional Transit District (SJRTD) but has not received a response. She complained that while fares are being increased service is cut back. She noted that as of July 1 transfers will not be allowed and this will create problems for the drivers. She added that taking almost a year to iron out a contract is too long.

Eric Oringdulph (05:49 PM)

Mr. Oringdulph spoke on the Spanos Park West Master Development Plan, particularly of the Planning Commission's acceptance of the 207,000 square foot retail Wal Mart Superstore. He expressed his dismay that the project received such smooth passage without regard to the residents of Spanos West. He said that the project is not compatible with existing land use in the area and that the potential negative effect on neighborhood aesthetics is unquestionable. He said that this project in its entirety will be destructive to the quality of life, and added that the effect on traffic patterns is also unquestionable. He pointed out that the modifications to Eight Mile Road to accomodate retail defy rational forethought and are incapable of absorbing current traffic. He asked Councilmember Bestolarides to listen to his constituents in District 1.

Vince Contino (05:53 PM)

Vince Contino, President and Business Agent of the Amalgamated Transit Union, said he is speaking for 300 drivers and mechanics as a Union Representative and fellow driver. He said that SJRTD's proposed contract is the beginning of a major labor war, which the County cannot afford. Mr. Contino said that the proposed pay cut for the average driver who makes $12.90 an hour would result in a wage of $12.04 per hour, while inflation has risen 3% a year. He said that SJRTD is not able to attract competent drivers and claimed that it is illegally firing union officers. He said that drivers are understaffed by approximately 20 drivers and are working 10 to 15 hours, counting spread times, which is against State and Federal law, and which he considers it union-busting. He said that runs are being pulled and people wait for buses that never arrive. He claimed that this Spring SJRTD passed a $26 million budget with no public scrutiny in a closed session. The Board also approved pay increases for management, a 37% in salary adjustments since 2000, and a 12.5% increase in raises and salary adjustments since the contract ran out a year ago. Mr. Contino said that the City Council appointed that SJRTD Board so it is responsible and asked that the Council ensure that the Board carries out its assigned duties. He said that the District's proposed medical plan changes employee's doctors, makes them go without medications, which could affect public safety, and has increased employee costs.

Nancy Steele (05:58 PM)

Ms. Steele, speaking for her husband, a driver for SJRTD, said that as a result of Ms. Kelsey's change in health care co-pays, they cannot afford most of their medications. She said that the co-pay for her medications has gone from $75 to $246.35 a month. She asked that the Council act on this issue. In response to Mayor Podesto, Mr. Contino verified that they are in arbitration.

Carmen Hughes (06:00 PM)

Ms. Hughes read a letter from an employee: "...this is written to let you know how much the insurance changes...made during contract negotiations has been hurting us. Before the change, my spouse co-pay costs were running approximately $65 a month, now...they are running approximately $235. The specialist co-pay increased from $10 to $40....In the last four months this has cost us over $1,000...Donna Kelsey has arbitrarily taken the insurance portion of the past contract, that should still be in existence, and readjusted..." Ms. Hughes claimed that the letter writer has been unable to switch over to Kaiser HMO because of her work schedule and was charged for taking off work to keep medical appointments. She continued reading the letter: "It seems that the longer I am employed here, the harder it is to get decent work shifts...It is very frustrating without a contract and we implore you, as City Council, to speak with our Board..."

Chantil Cripps (06:02 PM)

Ms. Cripps said that drivers have been working 15 hour spreads with 10 hours drive time without breaks. Bathroom breaks must be called in and there is not adequate time to eat lunch. She spoke of employees who cannot afford the co-pay for their medications, which was increased before the contract was settled. She said that drivers feel unappreciated and management is unavailable. Ms. Cripps said that employees want a contract and want management to do its job.

Justin Mendoza (06:05 PM)

Mr. Mendoza, an SJRTD passenger, said that he supports ATU Local 276. He read a statement supporting the Union and asking for a fair contract to provide a fair living wage and decent health benefits. Mr. Mendoza noted that the SJRTD Board of Directors is appointed by the City Council and claimed that the Board approved a substantial pay raise for SJRTD administrators. He said that Ms. Kelsey told him last week, that Mr. Contino does not want to work with her on this situation. Mr. Mendoza denied this, stating Mr. Contino has been working hard to resolve this issue.

Mayor Podesto clarified that the City appoints some of the Board members and the County appoints

some, the Council does not appoint the entire board.

Referring to previous speakers' references to closed sessions of the Board, Councilmember Martin was informed that the Board is compliant with the Brown Act and is required to hold public hearings.

Anna Marie Bozarth (06:09 PM)

Ms. Bozarth, a bus passenger, said that her route is being eliminated and voiced her support of the drivers.

ToCan Nguyen (06:10 PM)

Ms. Nguyen agreed with previous speakers, stating that she has repeatedly complained of crimes on buses. She continued her allegations of conspiracy, poisoning, and misuse of funding by government agencies. She complained of immoral behavior by minorities at her motel. She said that she has itemized her complaints and charges for the County Public Defender.

Marvin Bolin (06:15 PM)

Mr. Bolin voiced his support of Local 276, the union, and the drivers. He said that he has been a regular passenger and has noted that drivers are treated very rudely. He added that there is no air contiditioning on his bus and the heater rarely works. He voiced his hope that the contract is settled soon.

Larry Baker (06:18 PM)

Mr. Baker said that he and other members of the Taft Community Center involved in the Juneteenth Celebration wish to present a Certificate of Appreciation to the Councilmembers who volunteered to help register 31 new voters last Saturday. He noted that youth from the California Youth Authority and correctional facilities also were of assistance. He introduced Gloria Allen, who presented the cerficates.

Gloria Allen (06:20 PM)

Ms. Allen thanked the Mayor and Council for their support of the Taft Community Center and presented Certificates of Appreciation from the Taft Community Center Juneteenth Committee, 2004.

Janet Lilly (06:22 PM)

Ms. Lilly thanked the Council for its support of the Juneteenth Celebration at Weber Point. She noted that the Juneteenth Celebration is the oldest celebration commemorating the end of slavery and the County has three celebrations yearly. In July 2002, Governor Davis designated the third Saturday in June as Juneteenth, National Freedom Day. She praised the local talent that was displayed at the Celebration, noting that there were no incidents and good community support. She thanked Councilmembers Giovanetti and Martin for emceeing part of the event.

Carol Ornelas (06:25 PM)

Ms. Ornelas announced that Union Safe Deposit Bank is being bought out by Bank of the West and invited the Council to a meeting with CRA compliance officers to share what type of Community commitment is desired from Bank of the West. She noted that Union Safe Deposit has been very beneficial for Community, not only in lending but with charitable contributions and economic development. Ms. Ornelas said that this is an opportunity to voice concerns related to the Bank of the West's commitment to and funding for the Community. The meeting will be held Monday at 1 p.m. at the ACLC office, 315 North San Joaquin Street. Councilmember Martin asked if this meeting is open to all groups. Ms. Ornelas said that the entire community is being invited as it is important to ensure that Bank of the West understands the commitment and support required of it. Councilmember Ruhstaller observed that the biggest problem that occurs when big banks buy out small community banks is that they may give the same amount of money but they do not give it in the same geographical locations. Most of those charitable and reinvestment dollars are used on the Coast and not in the Central Valley. Ms. Ornelas agreed, adding that the Bank of the West headquarters is in France. She said that the goal is to obtain a serious commitment to the Community.

6. CC/RD CONSENT AGENDA
City Council: 6.01*, 6.02, 6.03, 6.04, 6.05, 6.06, 6.07, 6.08, 6.09, 6.10, 6.11, 6.12**, 6.13, 6.14**, 6.15, 6.16**
Concurrent City Council/Redevelopment Agency: 6.17

(06:29 PM)

*Note: Councilmember Ruhstaller commented on Item 6.01 and noted that the City is putting unpaid code violations and fines to the tune of $1 million on tax rolls. He observed that there are many small amounts but there are a few that have continuous large fines and penalties. He asked if this money is ever collected.

City Manager Lewis explained that after an amount is placed on the tax rolls, it becomes a lien on the property and is eventually collected when the property is sold or a collection is forced by the City.

**Note: Mayor Podesto asked that Items 6.02, 6.12, and 6.14 be removed from the consent calendar and heard as Items 7.01, 7.02 and 7.03 respectively.

6.01) CC Resolution 04-0372 authorizing the assessment of the delinquent code enforcement charges listed in Exhibit A "Delinquent Accounts That Will Receive Notices Combined Past Due Amounts" to the San Joaquin County tax roll. (POL) (Pages 1 – 25)
LINK TO 2004-06-22 Council Agenda Item 6.01
LINK TO 2004-06-22 Council Resolution 04-0372 Agenda Item 6.01

6.02) CC Approve a $600,000 amendment to the Community Development Block Grant (CDBG) loan between the City of Stockton and DIAMOND COVE II ASSOCIATES, a California Limited Partnership, with ACLC, Inc. as the general partner, for additional construction costs for the Diamond Cove II Project; authorize the City Manager to make any necessary administrative changes and to execute the necessary documents required to implement Council direction. (H&RD) (Pages 26 – 27)

Mayor Podesto requested that this item be removed from Consent and heard as Item 7.01.

6.03) CC Resolution 04-0373 authorizing the City Manager to execute the subdivision agreement, accepting on behalf of the public all offers of dedication; authorizing the recordation of the map – OAKMORE MEADOWS, UNIT NO. 2 – TRACT NO. 2500. (PW) (Pages 28 – 32)
LINK TO 2004-06-22 Council Agenda Item 6.03
LINK TO 2004-06-22 Council Resolution 04-0373 Agenda Item 6.03

6.04) CC Resolution 04-0374 authorizing the City Manager to execute the subdivision agreement, accept on behalf of the public all offers of dedication; authorizing the recordation of the map – NINFATINO ESTATES - - TRACT NO. 3309. (PW) (Pages 33 – 36)
LINK TO 2004-06-22 Council Agenda Item 6.04
LINK TO 2004-06-22 Council Resolution 04-0374 Agenda Item 6.04

6.05) CC Resolution 04-0375 accepting the completed public improvements for maintenance by the City of Stockton – MAYFAIR ESTATES - - TRACT NO. 3166. (PW) (Pages 37 – 39)
LINK TO 2004-06-22 Council Agenda Item 6.05
LINK TO 2004-06-22 Council Resolution 04-0375 Agenda Item 6.05

6.06) CC Resolution 04-0376 approving specifications and awarding a contract in the amount of $216,150 to REED AND GRAHAM, INC., for the purchase of Polymer-modified Asphalt Surface Sealer (PASS) emulsion for fiscal year 2004-05. (PW) (Pages 40 – 43)
LINK TO 2004-06-22 Council Agenda Item 6.06

6.07) CC Resolution 04-0377 approving plans and specifications and awarding a contract in the amount of $894,369 to BDS CONSTRUCTION for Curb, Gutter, Sidewalk and Wheelchair Ramp Repair Project (Project Number 04-14). (PW) (Pages 44 – 48)
LINK TO 2004-06-22 Council Agenda Item 6.07
LINK TO 2004-06-22 Council Resolution 04-0377 Agenda Item 6.07

6.08) CC Resolution 04-0378 approving the plans and specifications and awarding a contract in the amount of $576,950 to GRAHAM CONTRACTORS, INC., for the 2004 Street Cape-Seal Project (Project No. 04-13). (PW) (Pages 49 – 53)
LINK TO 2004-06-22 Council Agenda Item 6.08
LINK TO 2004-06-22 Council Resolution 04-0378 Agenda Item 6.08

6.09) CC Resolution 04-0379 approving the plans and specifications and awarding a contract in the amount of $1,194,570 to VALLEY SLURRY SEAL, INC., for the 2004 Street Microsurfacing Project (Project No. 04-12). (PW) (Pages 54 – 58)
LINK TO 2004-06-22 Council Agenda Item 6.09
LINK TO 2004-06-22 Council Resolution 04-0379 Agenda Item 6.09

6.10) CC STORM DRAINAGE BASIN MAINTENANCE DISTRICTS – adopt the following resolutions to

provide preliminary approval of the proposed budgets and set the public hearing

LINK TO 2004-06-22 Council Agenda Item 6.10

a) Resolution 04-0380 - Charter Way Industrial Site Storm Drainage Basin Maintenance District, Project No. 86-4;

LINK TO 2004-06-22 Council Resolution 04-0380 Agenda Item 6.10 a

b) Resolution 04-0381 - Arch Road Industrial Park Storm Drainage Basin Maintenance District, Project No. 84-2;

LINK TO 2004-06-22 Council Resolution 04-0381 Agenda Item 6.10 b

c) Resolution 04-0382 - Western Pacific Industrial Park Storm Drainage Basin Maintenance District, Project No. 81-1;

LINK TO 2004-06-22 Council Resolution 04-0382 Agenda Item 6.10 c

d) Resolution 04-0383 - Stockton Airport Business Center Storm Drainage Basin Maintenance District, Project No. 84-1;

LINK TO 2004-06-22 Council Resolution 04-0383 Agenda Item 6.10 d

e) Resolution 04-0384 - Airport Gateway Center Storm Drainage Basin Maintenance District.(Hearing will be held July 20, 2004.) (PW) (Pages 59 – 76)

LINK TO 2004-06-22 Council Resolution 04-0384 Agenda Item 6.10 e

6.11) CC Resolution 04-0385 that provides for the preliminary approval of the Stockton Consolidated Landscape Maintenance District No. 96-2 Annual Engineer's Report for the 2004-2005 fiscal year; provides for the preliminary approval of the proposed budget; setting the time and place of a public hearing to be held July 13, 2004. (P&R) (Pages 77 – 93)

LINK TO 2004-06-22 Council Agenda Item 6.11

LINK TO 2004-06-22 Council Resolution 04-0385 Agenda Item 6.11

6.12) CC INITIATIVE MEASURE SUBMITTED BY ERIC PARFREY, ROSEMARY ATKINSON, AND PATRICK JOHNSTON - STOCKTON GREENBELT AND AGRICULTURAL LANDS PROTECTION INITIATIVE MEASURE. Recommended Action: That the Council order a report pursuant to California Elections Code Section 9212 on the potential effects of the measure. The report shall be prepared within the time prescribed by the Council, but no later than 30 days after the City Clerk certifies to the Council the sufficiency of the petition. When the report is presented to the Council, the Council shall either adopt the ordinance within ten (10) days or order an election. (Pages 94 – 118)

Mayor Podesto requested that this item be removed from Consent. This Item was heard as Item 7.02, Unfinished Business.

6.13) CC RESOLUTION 04-0386 SUPPORTING SENATE BILL 1266 - AN ACT TO AMEND SECTION 56375.3 OF THE GOVERNMENT CODE RELATING TO ANNEXATION, and: 1) forwarding correspondence to the appropriate parties; and 2) authorizing the City Manager to report the City Council's position and provide factual information regarding the Measure.) (CM) (Pages 119 – 126)

LINK TO 2004-06-22 Council Agenda Item 6.13

LINK TO 2004-06-22 Council Resolution 04-0386 Agenda Item 6.13

6.14) CC MULTI-FAMILY DWELLING ANNUAL ADMINISTRATIVE FEE (Recommendation: None. Information Only) (CM) (Pages 127 – 128)

Mayor Podesto requested that this item be removed from Consent. This Item was heard as Item 7.03, Unfinished Business.

6.15) CC Resolution 04-0387 authorizing the City Manager to issue a Request for Proposal (RFP) for a Coffee Service Provider for the Chavez Central Library, Department of Library Services. (LIB) (Pages 129 – 138)

LINK TO 2004-06-22 Council Agenda Item 6.15

LINK TO 2004-06-22 Council Resolution 04-0387 Agenda Item 6.15

6.16) CC Resolution 04-0388 amending the class specifications for Assistant City Auditor; Deputy City Auditor I/II, and Senior Deputy City Auditor. (HR) (Pages 139 – 156)

LINK TO 2004-06-22 Council Agenda Item 6.16

LINK TO 2004-06-22 Council Resolution 04-0388 Agenda Item 6.16

6.17) CC MOTION TO APPROVE THE OF MINUTES OF CONCURRENT CITY COUNCIL/ REDEVELOPMENT AGENCY MEETINGS HELD JUNE 8, 2004. (CC) (Pages 157 – 168)

LINK TO 2004-06-22 Council Agenda Item 6.17

Motion: Approve consent calendar save items 6.02, 6.12 and 6.14
Moved by Nomura, Vice-Mayor, seconded by Martin, Councilmember.
Vote: Motion carried 7-0.

Yes:
Podesto, Mayor; Bestolarides, Councilmember; Nomura, Vice-Mayor; Nickerson, Councilmember; Ruhstaller, Councilmember; Martin, Councilmember; Giovanetti, Councilmember

7. UNFINISHED BUSINESS (06:30 PM)

7.01 (formerly Item 6.02) CC Approve a $600,000 amendment to the Community Development Block Grant (CDBG) loan between the City of Stockton and DIAMOND COVE II ASSOCIATES, a California Limited Partnership, with ACLC, Inc. as the general partner, for additional construction costs for the Diamond Cove II Project; authorize the City Manager to make any necessary administrative changes and to execute the necessary documents required to implement Council direction. (H&RD) (Pages 26 – 27) (06:30 PM)

LINK TO 2004-06-22 Council Agenda Item 6.02 7.01

Mayor Podesto asked for documentation of increased costs and why the $600,000 amendment is necessary. He asked if bids were solicited to determine this amount. He requested that staff return with this information relative to this item.

City Manager Lewis indicated that this would be brought back.

Item 7.02 (formerly Item 6.12) CC INITIATIVE MEASURE SUBMITTED BY ERIC PARFREY, ROSEMARY ATKINSON, AND PATRICK JOHNSTON - STOCKTON GREENBELT AND AGRICULTURAL LANDS PROTECTION INITIATIVE MEASURE. Recommended Action: That the Council order a report pursuant to California Elections Code Section 9212 on the potential effects of the measure. The report shall be prepared within the time prescribed by the Council, but no later than 30 days after the City Clerk certifies to the Council the sufficiency of the petition. When the report is presented to the Council, the Council shall either adopt the ordinance within ten (10) days or order an election. (Pages 94 – 118) (06:31 PM)

LINK TO 2004-06-22 Council Agenda Item 6.12 7.02
LINK TO 2004-06-22 Council Agenda Item 7.02 (formerly Item 6.12) Powerpoint
Memorandum dated June 22, 2004 from City Clerk Katherine Meissner clarifying that regardless of which of the three options the Council chooses in regard to Item 6.12, the Council's action must and will include accepting the City Clerk's Certificate of Sufficency.

City Clerk Katherine Meissner gave the staff report with the aide of the powerpoint presentation (filed).

City Manager Lewis explained the recommended Option 3 relative to the fiscal impact report.

Public comment:

Dale Stocking spoke on this matter.

Council discussion ensued regarding the timeline for presenting the fiscal impact report.

Motion: Approve acceptance of the City Clerk's Certificate of Sufficiency and ordering a report pursuant to California Elections Code Section 9212 on the potential effects of the measure; the report is to be presented to the Council on July 20, 2004. When the report is presented to the Council, the Council shall either adopt the ordinance within ten (10) days or order an election.

Moved by Podesto, Mayor, seconded by Nomura, Vice-Mayor.
Vote: Motion carried 7-0.
Yes:
Podesto, Mayor; Bestolarides, Councilmember; Nomura, Vice-Mayor; Nickerson, Councilmember; Ruhstaller, Councilmember; Martin, Councilmember; Giovanetti, Councilmember

Item 7.03 (formerly Item 6.14) CC MULTI-FAMILY DWELLING ANNUAL ADMINISTRATIVE FEE (Recommendation: None. Information Only) (CM)(Pages 127 – 128) (06:51 PM)

LINK TO 2004-06-22 Council Agenda Item 6.14 7.03
LINK TO 2004-06-22 Council Agenda Item 6.14 7.03 Powerpoint

City Fire Inspection Survey dated June 10, 2004 submitted by Eileen St. Yves, San Joaquin County

Rental property Association (filed).

Mayor Podesto indicated that the Council had asked previously that this item be reconsidered. Interim City Attorney Jayne Williams clarified that the Council can direct this item come back as an action item.

Motion: Approve that staff bring this item back for Council reconsideration at an upcoming meeting. Moved by Podesto, Mayor, seconded by Giovanetti, Councilmember.

No public comment was taken at this meeting relative to this item.

Vote: Motion carried 7-0.
Yes:
Podesto, Mayor; Bestolarides, Councilmember; Nomura, Vice-Mayor; Nickerson, Councilmember; Ruhstaller, Councilmember; Martin, Councilmember; Giovanetti, Councilmember

8. NEW BUSINESS - None (06:54 PM)

9. PUBLIC HEARINGS (06:54 PM)

9.01) CC Hearing to consider public comments/testimony regarding the appeal of a Planning Commission approval of a Use Permit to allow the off-sale of beer and wine (Phase 1) and General Alcoholic Beverages (Phase 2) in conjunction with a 207,000 square foot retail super center, located at the northwest corner of Trinity Parkway and Consumnes Drive (10355 Trinity Parkway) (UP15-04).
NOTE: At the conclusion of the hearing a resolution will be available denying the appeal and upholding the Planning Commission's approval of a Use Permit (UP15-04) to allow the off-sale of beer and wine and general alcoholic beverages in conjunction with an approved by-right retail store on property located at the northwest corner of Trinity Parkway and Consumnes Drive (10355 Trinity Parkway). (CD)(Pages 169 – 225) (06:54 PM)

LINK TO 2004-06-22 Council Agenda Item 9.01
LINK TO 2004-06-22 Council Agenda Item 9.01 Powerpoint
LINK TO 2004-06-22 Council Resolution 04-0389 Agenda Item 9.01
Mayor Podesto declared the public hearing open. (06:54 PM)
Correspondence filed:

June 17, 2004 letter from Jim Watt, Vice President of Real Estate, SaveMart Supermarkets regarding the Liquor License/Conditional Use Permit, Wal-Mart Supercenter - Spanos Park West, Stockton, CA.

AFFIDAVIT OF MAILING IS ON FILE IN THE CITY CLERK'S OFFICE.

The Council recessed at this time until 7 p.m. (06:55 PM)
The Council reconvened at this time. (07:02 PM)

Community Development Director James Glaser introduced Senior Planner David Stagnaro who gave the staff report and aided by the powerpoint presentation (filed).

Mr. Glaser presented additional information regarding this project.

The following appellant representative spoke:

William Kopper, attorney representing Rosemary Atkinson, Paul Diaz, Susan Rutherford, Larin Essex, and Stockton Citizens for Sensible Planning. He submitted a letter dated April 6, 2004 regarding the application of A.G. Spanos Construction, Inc. to allow the Off-Sale of General Alcoholic Beverages in conjunction with a 207,000 square foot Wal-Mart Supercenter (UP15-04); propertly location: 10355 Trinity Parkway within the Spanos Park West Project.

Councilmember Martin asked questions of Mr. Copper relative to his representation against other WalMart cases.

The following individuals spoke in support of the appeal:

Jim Watt

Steve Gaines

Brian Kenney

The following Project Proponent spoke:

Gerry Sperry, attorney representing A. G. Spanos Construction East

No one else spoke in support of the project.

Rebuttal:
William Copper

Mayor Podesto asked questions about the appellant's grounds for the protest.

Councilmember Martin asked about the building permit.

Mayor Podesto closed the public hearing at this time and reserved the right to ask additional questions of individuals who have spoken during this public hearing.
(07:41 PM)

Mayor Podesto asked about the MX Zone designation.

Councilmembers Ruhstaller and Giovanetti asked questions relative to traffic and parking.

Public Works Program Manager III Gregg Meissner answered questions relative to traffic.

Mayor Podesto and Councilmember Ruhstaller expressed concern about the independents versus WalMart, but this cannot be a concern before the Council.

Councilmember Bestolarides stated this is academic being that this is a by-right use absent the alcohol issue or an Environmental Impact Report (EIR) issue, which is the greater issue. The rules are clearly stated in the EIR and how they're followed.

Mayor Podesto stated he understands the concerns of the opposition.

Motion: Approve 9.01) Resolution 04-0389 denying the appeal and upholding the Planning Commission's approval of a Use Permit (UP15-04) to allow the off-sale of beer and wine and general alcoholic beverages in conjunction with an approved by-right retail store on property located at the northwest corner of Trinity Parkway and Consumnes Drive (10355 Trinity Parkway).

Moved by Podesto, Mayor, seconded by Nomura, Vice-Mayor.
Vote: Motion carried 6-1.
Yes:
Podesto, Mayor; Nomura, Vice-Mayor; Nickerson, Councilmember; Ruhstaller, Councilmember; Martin, Councilmember; Giovanetti, Councilmember
No:
Bestolarides, Councilmember

9.02) CC Hearing to consider public comments/testimony regarding the redevelopment RD plan and the California Environmental Quality Act for the North Stockton Redevelopment Plan

Proposed City Council Action:

Pursuant to Health and Safety Code Section 33363 (California Community Redevelopment Law), prior to adopting a redevelopment plan, the legislative body is required to make written findings in response to each written objection to the Redevelopment Plan made prior to the close of the public hearing. The findings cannot be adopted until at least one week after the noticed public hearing date. One written objection to the North Stockton Redevelopment Plan has been received. Therefore, it is recommended that after receiving the public testimony, that the public hearing be closed and continued to July 13, 2004, at which time recommendations regarding the adoption of the Redevelopment Plan will be presented and considered for adoption. It is also recommended that the City Council consider adoption of a resolution certifying the Final Environmental Impact Report (FEIR) and adopting the California Environmental Quality Act Findings and Mitigation Monitoring and Reporting Programs for the North Stockton Redevelopment Plan on July 13, 2004.

Proposed Redevelopment Agency Action:

Pursuant to Health and Safety Code Section 33363 (California Community Redevelopment Law), prior to adopting a redevelopment plan, the legislative body is required to make written findings in response to each written objection to the Redevelopment Plan made prior to the close of the public hearing. The findings cannot be adopted until at least one week after the noticed public hearing date. One written objection to the North Stockton Redevelopment Plan has been received. Therefore, it is recommended that after receiving the public testimony, that the public hearing be closed and continued to July 13, 2004, at which time recommendations regarding the adoption of the Redevelopment Plan will be presented and considered for adoption. It is also recommended that the Redevelopment Agency consider adoption of a resolution certifying the Final Environmental Impact Report (FEIR) and adopt the California Environmental Quality Act Findings and Mitigation Monitoring and Reporting Programs for the North Stockton Redevelopment Plan on July 13, 2004. (H&RD)(Pages 226 – 235) (07:53 PM)

LINK TO 2004-06-22 Council Agenda Item 9.02

AFFIDAVIT OF PUBLICATION IS ON FILE IN THE CITY CLERK'S OFFICE.

LINK TO 2004-06-22 Council Agenda Item 9.02 Powerpoint
Mayor Podesto declared the public hearing open. (07:54 PM)

Housing and Redevelopment Director Steve Pinkerton gave the staff report and filed the powerpoint presentation.

The following individuals also gave presentations supporting the staff report:

James C. Simon, Rosenow Spevacek Group, Inc.

Lynn Hutchins, Goldfarb & Lipman, filed the proof of publication regarding this item.

Podesto, Mayor left the meeting at 08:00 PM
Podesto, Mayor joined the meeting at 08:01 PM

Mr. Pinkerton summarized the presentation and filed the following letters received in response to the plan:

1) June 10, 2004 letter from John M. Rau, Managing General Partner of Normandy Village (relunctantly in support);

2) June 20, 2004 letter from Harvey Christensen (opposed); and

3) May 24, 2004 letter from Minh Huynh (opposed).

Those speaking in support of the plan:

Philip Hawtin, North Stockton Redevelopment Committee

Tony Zeiter

John Rau, Manager Partner of Normandy Village

Sovanna Koeurt, Project Area Community Member

Teresa Bryant

Heidi Wilson

Jeff Heitman

Carol Ornelas

ToCan Nguyen spoke in opposition to the plan.

Martin, Councilmember left the meeting at 08:30 PM

Additional speakers in support of the plan:

Jim Nyland, President of Nyland Properties

Jan Meyer

Mayor Podesto closed the public hearing at this time.
(08:36 PM)
Motion: Approve 1) the Council Action as follows: closing the public hearing and continuing it to July 13, 2004, at which time recommendations regarding the adoption of the Redevelopment Plan will be presented and considered for adoption. The City Council will consider adoption of a resolution certifying the Final Environmental Impact Report (FEIR) and adopting the California Environmental Quality Act Findings and Mitigation Monitoring and Reporting Programs for the North Stockton Redevelopment Plan on July 13, 2004; and

2) the Redevelopment Agency Action as follows:
closing and continuing the public hearing to July 13, 2004, at which time recommendations regarding the adoption of the Redevelopment Plan will be presented and considered for adoption. The Redevelopment Agency will consider adoption of a resolution certifying the Final Environmental Impact Report (FEIR) and adopt the California Environmental Quality Act Findings and Mitigation Monitoring and Reporting Programs for the North Stockton Redevelopment Plan on July 13, 2004.

Moved by Ruhstaller, Councilmember, seconded by Nomura, Vice-Mayor.
Vote: Motion carried 6-0.
Yes:
Podesto, Mayor; Bestolarides, Councilmember; Nomura, Vice-Mayor; Nickerson, Councilmember; Ruhstaller, Councilmember; Giovanetti, Councilmember
Absent:
Martin, Councilmember

9.03) CC Hearing to consider public comments/testimony regarding the Proposed Solid Waste Rate Schedule Amendments. NOTE:At the conclusion of the hearing a resolution will be available approving an amended solid waste collection rate schedule, effective August 1, 2004, adding rates for extra green waste collection services and a 5% rate discount for disabled residential customers under age 65 with income below Stockton's median income. (PW) (Pages 236 – 238) (08:37 PM)

LINK TO 2004-06-22 Council Agenda Item 9.03

AFFIDAVIT OF PUBLICATION IS ON FILE IN THE CITY CLERK'S OFFICE.

LINK TO 2004-06-22 Council Agenda Item 9.03 powerpoint
LINK TO 2004-06-22 Council Resolution 04-0390 Agenda Item 9.03
Mayor Podesto declared the public hearing open. (08:37 PM)

Public Works Director James Giottonini gave the staff report and filed the powerpoint presentation.

Councilmember Bestolarides clarified that the proposal is not changing what had been approved, but is an additional service.

Mayor Podesto asked questions about discounts for seniors and why they are not considered for discounts.

Mayor Podesto declared the public hearing closed. (08:45 PM)
Motion: Approve 9.03) CC Resolution 04-0390, as revised, approving an amended solid waste collection rate schedule, effective August 1, 2004, adding rates for extra green waste collection services and a 10% (revised from 5%) rate discount for disabled residential customers under age 65 with income below Stockton's median income.

Moved by Bestolarides, Councilmember, seconded by Nomura, Vice-Mayor.
Vice Mayor Nomura stated her support for a senior discount along with the discount for disabled customers.

Vote: Motion carried 6-0.
Yes:
Podesto, Mayor; Bestolarides, Councilmember; Nomura, Vice-Mayor; Nickerson, Councilmember; Ruhstaller, Councilmember; Giovanetti, Councilmember
Absent:
Martin, Councilmember

10. COUNCIL/REDEVELOPMENT AGENCY COMMENTS AND COMMITTEE REPORTS (08:48 PM)

Councilmember Ruhstaller (08:48 PM)

1. Councilmember Ruhstaller reported that last week he went on a three day water tour of the Delta and parts of the San Francisco Bay. He noted that over the last week there have been numerous articles printed on water and the levee. He said that the hidden danger to the economy of our area is related to the Delta and the water supply, as the water for 22 million Californians comes through the Delta, and the levee break pointed out that there are issues that need to be addressed related to the water supply. He said that he hoped that Councilmember Giovanetti can keep the new Councilmembers advised of the situation.

2. He noted that The Record had three very nice articles on people that work for their fathers

Vice Mayor Nomura (CM to follow up) (08:50 PM)

Vice Mayor Nomura referred to citizen complaints about the minature "pocket" scooters running rampant in the street. She asked for a review of City policy related to this issue.

Mayor Podesto noted that Modesto has outlawed the scooters on their public streets.

Interim City Attorney Jayne Williams added that there are Vehicle Code statutes that regulate motorized scooters.

11. ADJOURNMENT (08:51 PM)

KATHERINE GONG MEISSNER
CITY CLERK OF THE CITY OF STOCKTON
SECRETARY REDEVELOPMENT AGENCY

CITY OF STOCKTON
NOTICE OF EXEMPTION

TO: COUNTY CLERK
COUNTY OF SAN JOAQUIN
6 South El Dorado Street, 2nd Floor
Stockton, CA 95202

FROM: Lead Agency
City of Stockton
c/o Community Development Dept.
Planning Division
425 North El Dorado Street
Stockton, CA 95202-1997

NOTICE OF EXEMPTION PURSUANT TO PUBLIC RESOURCES CODE SECTION 21152(B) AND CALIFORNIA CODE OF REGULATIONS TITLE 14, SECTION 15062

PROJECT DATA
Project Title: A.G. Spanos Construction – Use Permit Project
CEQA Exemption File No.: CE221-04
Applicant: A.G. Spanos Construction
Project Description/Location: Use Permit to allow the off-sale of beer and wine (Phase 1) and general alcoholic beverages (Phase 2) in conjunction with a 207,000± square foot retail store located at 10355 Trinity Parkway within Spanos Park West Project (UP15-04).

DETERMINATION/FINDING OF EXEMPTION
The above-described activity/project is exempt from the environmental assessment requirements of the California Environmental Quality Act (CEQA) pursuant to the following section(s) of the State CEQA Guidelines (California Code of Regulations, Title 14):

____ The activity is not a "project" as defined in Section 15378.
____ The activity is exempt under the "general rule" that CEQA applies only to projects which have the potential for causing significant environmental effects, as specified in Section 15061(B)(3).
____ The project has been granted a "Statutory Exemption" under Article 18 and, specifically, by Section(s): _____.
__X__ The project has been granted a "Categorical Exemption" under Article 19 and, specifically, by Section(s): 15301 (CLASS 1).

BASIS FOR FINDING OF EXEMPTION
____ The activity does not qualify as a project and/or clearly could not have a significant effect on the environment and, therefore, CEQA does not apply.
__X__ The activity constitutes a discretionary project under the City's jurisdiction and qualifies as a project which has been determined not to have a significant effect on the environment and, therefore, is exempt from the provisions of CEQA under the above-noted statutory or categorical exemption(s).

June 30, 2004
(DATE OF PREPARATION)

JAMES E. GLASER, DIRECTOR
COMMUNITY DEVELOPMENT DEPARTMENT

(DATE OF FINAL APPROVAL)

AFFIDAVIT OF FILING AND POSTING

I declare that on the date stamped above, I received and posted this notice or included it on a list of such notices which was posted as required by California Public Resources Code Section 21152(B). Said notice or list of notices will remain posted for 35 days from the filing date.

Signature

Title

Posting Period Ending Date

Vol. 287 No. 9, March 6, 2002

Original Contribution

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Lung Cancer, Cardiopulmonary Mortality, and Long-term Exposure to Fine Particulate Air Pollution

C. Arden Pope III, PhD; Richard T. Burnett, PhD; Michael J. Thun, MD; Eugenia E. Calle, PhD; Daniel Krewski, PhD; Kazuhiko Ito, PhD; George D. Thurston, ScD

JAMA. 2002;287:1132-1141.

ABSTRACT

Context Associations have been found between day-to-day particulate air pollution and increased risk of various adverse health outcomes, including cardiopulmonary mortality. However, studies of health effects of long-term particulate air pollution have been less conclusive.

Objective To assess the relationship between long-term exposure to fine particulate air pollution and all-cause, lung cancer, and cardiopulmonary mortality.

Design, Setting, and Participants Vital status and cause of death data were collected by the American Cancer Society as part of the Cancer Prevention II study, an ongoing prospective mortality study, which enrolled approximately 1.2 million adults in 1982. Participants completed a questionnaire detailing individual risk factor data (age, sex, race, weight, height, smoking history, education, marital status, diet, alcohol consumption, and occupational exposures). The risk factor data for approximately 500 000 adults were linked with air pollution data for metropolitan areas throughout the United States and combined with vital status and cause of death data through December 31, 1998.

Main Outcome Measure All-cause, lung cancer, and cardiopulmonary mortality.

Results Fine particulate and sulfur oxide–related pollution were associated with all-cause, lung cancer, and cardiopulmonary mortality. Each 10-μg/m^3 elevation in fine particulate air pollution was associated with approximately a 4%, 6%, and 8% increased risk of all-cause, cardiopulmonary, and lung cancer mortality, respectively. Measures of coarse particle fraction and total suspended particles were not consistently associated with mortality.

Conclusion Long-term exposure to combustion-related fine particulate air pollution is an important environmental risk factor for cardiopulmonary and lung cancer mortality.

INTRODUCTION

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Based on several severe air pollution events,[1-3] a temporal correlation between extremely high concentrations of particulate and sulfur oxide air pollution and acute increases in mortality was well established by the 1970s. Subsequently, epidemiological studies published between 1989 and 1996 reported health effects at unexpectedly low concentrations of particulate air pollution.[4] The convergence of data from these studies, while controversial,[5] prompted serious reconsideration of standards and health guidelines[6-10] and led to a long-term research program designed to analyze health-related effects due to particulate pollution.[11-13] In 1997, the Environmental Protection Agency adopted new ambient air quality standards that would impose regulatory limits on fine particles measuring less than 2.5 μm in diameter ($PM_{2.5}$). These new standards were challenged by industry groups, blocked by a federal appeals court, but ultimately upheld by the US Supreme Court.[14]

Although most of the recent epidemiological research has focused on effects of short-term exposures, several studies suggest that long-term exposure may be more important in terms of overall public health.[4] The new standards for long-term exposure to $PM_{2.5}$ were originally based primarily on 2 prospective cohort studies,[15-16] which evaluated the effects of long-term pollution exposure on mortality. Both of these studies have been subjected to much scrutiny,[5] including an extensive independent audit and reanalysis of the original data.[17] The larger of these 2 studies linked individual risk factor and vital status data with national ambient air pollution data.[16] Our analysis uses data from the larger study and (1) doubles the follow-up time to more than 16 years and triples the number of deaths; (2) substantially expands exposure data, including gaseous copollutant data and new $PM_{2.5}$ data, which have been collected since the promulgation of the new air quality standards; (3) improves control of occupational exposures; (4) incorporates dietary variables that account for total fat consumption, and consumption of vegetables, citrus, and high-fiber grains; and (5) uses recent advances in statistical modeling, including the incorporation of random effects and nonparametric spatial smoothing components in the Cox proportional hazards model.

METHODS

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Study Population

The analysis is based on data collected by the American Cancer Society (ACS) as part of the Cancer Prevention Study II (CPS-II), an ongoing prospective mortality study of approximately 1.2 million adults.[18-19] Individual participants were enrolled by ACS volunteers in the fall of 1982. Participants resided in all 50 states, the District of Columbia, and Puerto Rico, and were generally friends, neighbors, or acquaintances of ACS volunteers. Enrollment was restricted to persons who were aged 30 years or older and who were members of households with at least 1 individual aged 45 years or older. Participants completed a confidential questionnaire, which included questions about age, sex, weight, height, smoking history, alcohol use, occupational exposures, diet, education, marital status, and other characteristics.

Vital status of study participants was ascertained by ACS volunteers in September of the following years: 1984, 1986, and 1988. Reported deaths were verified with death certificates. Subsequently, through December 31, 1998, vital status was ascertained through automated linkage of the CPS-II study population with the National Death Index.[19] Ascertainment of deaths was more than 98% complete for the period of 1982-1988 and 93% complete after 1988.[19] Death certificates or codes for cause of death were obtained for more than 98% of all known deaths. Cause of death was coded according to the *International Classification of Diseases, Ninth Revision (ICD-9)*. Although the CPS-II cohort included approximately 1.2 million participants with adequate questionnaire and cause-of-death data, our analysis was restricted to those participants who resided in US metropolitan areas with available pollution data. The actual size of the analytic cohort varied depending on the number of metropolitan areas for which pollution data were available. Table 1 provides the number of metropolitan areas and participants available for each source of pollution data.

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Table 1. Summary of Alternative Pollution Indices*

Air Pollution Exposure Estimates

Each participant was assigned a metropolitan area of residence based on address at time of enrollment and 3-digit ZIP code area.[20] Mean (SD) concentrations of air pollution for the metropolitan areas were compiled from various primary data sources (Table 1). Many of the particulate pollution indices, including $PM_{2.5}$, were available from data from the Inhalable Particle Monitoring Network for 1979-1983 and data from the National Aerometric Database for 1980-1981, periods just prior to or at the beginning of the follow-up period. An additional data source was the Environmental Protection Agency Aerometric Information

Retrieval System (AIRS). The mean concentration of each pollutant from all available monitoring sites was calculated for each metropolitan area during the 1 to 2 years prior to enrollment.[17]

Additional information on ambient pollution during the follow-up period was extracted from the AIRS database as quarterly mean values for each routinely monitored pollutant for 1982 through 1998. All quarterly averages met summary criteria imposed by the Environmental Protection Agency and were based on observations made on at least 50% of the scheduled sampling days at each site. The quarterly mean values for all stations in each metropolitan area were calculated across the study years using daily average values for each pollutant except ozone. For ozone, daily 1-hour maximums were used and were calculated for the full year and for the third quarter only (ie, July, August, September). While gaseous pollutants generally had recorded data throughout the entire follow-up period of interest, the particulate matter monitoring protocol changed in the late 1980s from total suspended particles to particles measuring less than 10 μm in diameter (PM_{10}), resulting in the majority of total suspended particle data being available in the early to mid-1980s and PM_{10} data being mostly available in the early to mid-1990s.

As a consequence of the new $PM_{2.5}$ standard, a large number of sites began collecting $PM_{2.5}$ data in 1999. Daily $PM_{2.5}$ data were extracted from the AIRS database for 1999 and the first 3 quarters of 2000. For each site, quarterly averages for each of the 2 years were computed. The 4 quarters were averaged when at least 1 of the 2 corresponding quarters for each year had at least 50% of the sixth-day samples and at least 45 total sampling days available. Measurements were averaged first by site and then by metropolitan area. Although no network of $PM_{2.5}$ monitoring existed in the United States between the early 1980s and the late 1990s, the integrated average of $PM_{2.5}$ concentrations during the period was estimated by averaging the $PM_{2.5}$ concentration for early and later periods.

Mean sulfate concentrations for 1980-1981 were available for many cities based on data from the Inhalable Particle Monitoring Network and the National Aerometric Database. Recognizing that sulfate was artifactually overestimated due to glass fiber filters used at that time, season and region-specific adjustments were made.[17] Since few states analyzed particulate samples for sulfates after the early 1980s, individual states were directly contacted for data regarding filter use. Ion chromatography was used to analyze PM_{10} filters and this data could be obtained from metropolitan areas across the United States. Filters were collected for a single reference year (1990) in the middle of the 1982-1998 study period. The use of quartz filters virtually eliminated the historical overestimation of sulfate. Mean sulfate concentrations for 1990 were estimated using sulfate from AIRS, data reported directly from individual states, and analysis of archived filters.

Statistical Analysis

The basic statistical approach used in this analysis is an extension of the standard Cox proportional hazards survival model,[21] which has been used for risk estimates of pollution-related mortality in previous longitudinal cohort studies.[15-16] The standard Cox model implicitly assumes that observations are statistically independent after controlling for available risk factors, resulting in 2

concerns with regard to risk estimates of pollution-related mortality.[22] First, if the assumption of statistical independence is not valid, the uncertainty in the risk estimates of pollution-related mortality may be misstated. Second, even after controlling for available risk factors, survival times of participants living in communities closer together may be more similar than participants living in communities farther apart, which results in spatial autocorrelation. If this spatial autocorrelation is due to missing or systematically mismeasured risk factors that are spatially correlated with air pollution, then the risk estimates of pollution-related mortality may be biased due to inadequate control of these factors. Therefore, in this analysis, the Cox proportional hazards model was extended by incorporating a spatial random-effects component, which provided accurate estimates of the uncertainty of effect estimates. The model also evaluated spatial autocorrelation and incorporated a nonparametric spatial smooth component (to account for unexplained spatial structure). A more detailed description of this modeling approach is provided elsewhere.[22]

The baseline analysis in this study estimated adjusted relative risk (RR) ratios for mortality by using a Cox proportional hazards model with inclusion of a metropolitan-based random-effects component. Model fitting involved a 2-stage process. In the first stage, survival data were modeled using the standard Cox proportional hazards model, including individual level covariates and indicator variables for each metropolitan area (without pollution variables). Output from stage 1 provided estimates of the metropolitan-specific logarithm of the RRs of mortality (relative to an arbitrary reference community), which were adjusted for individual risk factors. The correlation between these values, which was induced by using the same reference community, was then removed.[23] In the second stage, the estimates of adjusted metropolitan-specific health responses were related to fine particulate air pollution using a linear random-effects regression model.[24] The time variable used in the models was survival time from the date of enrollment. Survival times of participants who did not die were censored at the end of the study period. To control for age, sex, and race, all of the models were stratified by 1-year age categories, sex, and race (white vs other), which allowed each category to have its own baseline hazard. Models were estimated for all-cause mortality and for 3 separate mortality categories: cardiopulmonary (*ICD-9* 401-440 and 460-519), lung cancer (*ICD-9* 162), and all others.

Models were estimated separately for each of the 3 fine particle variables, $PM_{2.5}$ (1979-1983), $PM_{2.5}$ (1999-2000), and $PM_{2.5}$ (average). Individual level covariates were included in the models to adjust for various important individual risk factors. All of these variables were classified as either indicator (ie, yes/no, binary, dummy) variables or continuous variables. Variables used to control for tobacco smoke, for example, included both indicator and continuous variables. The smoking indicator variables included: current cigarette smoker, former cigarette smoker, and a pipe or cigar smoker only (all vs never smoking) along with indicator variables for starting smoking before or after age 18 years. The continuous smoking variables included: current smoker's years of smoking, current smoker's years of smoking squared, current smoker's cigarettes per day, current smoker's cigarettes per day squared, former smoker's years of smoking, former smoker's years of smoking squared, former smoker's cigarettes per day, former smoker's cigarettes per day squared, and the number of hours per day exposed to passive cigarette smoke.

To control for education, 2 indicator variables, which indicated completion of high school or education beyond high school, were included. Marital status variables included indicator variables for single and other vs married. Both body mass index (BMI) values and BMI values squared were included as continuous variables. Indicator variables for beer, liquor, and wine drinkers and

nonresponders vs nondrinkers were included to adjust for alcohol consumption. Occupational exposure was controlled for using various indicator variables: regular occupational exposure to asbestos, chemicals/acids/solvents, coal or stone dusts, coal tar/pitch/asphalt, diesel engine exhaust, or formaldehyde, and additional indicator variables that indicated 9 different rankings of an occupational dirtiness index that has been developed and described elsewhere.[17, 25] Two diet indices that accounted for fat consumption and consumption of vegetables, citrus, and high-fiber grains were derived based on information given in the enrollment questionnaire.[18] Quintile indicator variables for each of these diet indices were also included in the models.[18]

In addition to the baseline analysis, several additional sets of analysis were conducted. First, to more fully evaluate the shape of the concentration-response function, a robust locally weighted regression smoother[26] (within the generalized additive model framework[27]) was used to estimate the relationship between particulate air pollution and mortality in the second stage of model fitting. Second, the sensitivity of the fine particle mortality risk estimates compared with alternative modeling approaches and assumptions was evaluated. Standard Cox proportional hazards models were fit to the data including particulate air pollution as a predictor of mortality and sequentially adding (in a controlled forward stepwise process) groups of variables to control for smoking, education, marital status, BMI, alcohol consumption, occupational exposures, and diet.

In addition, to evaluate the sensitivity of the estimated pollution effect while more aggressively controlling for spatial differences in mortality, a 2-dimensional term to account for spatial trends was added to the models and was estimated using a locally weighted regression smoother. The "span" parameter, which controls the complexity of the surface smooth, was set at 3 different settings to allow for increasingly aggressive fitting of the spatial structure. These included a default span of 50%, the span that resulted in the lowest unexplained variance in mortality rate between metropolitan areas, and the span that resulted in the strongest evidence (highest *P* value) to suggest no residual spatial structure. The risk estimates and SEs (and thus the confidence intervals) were estimated using generalized additive modeling[27] with S-Plus statistical software,[28] which provides unbiased effect estimates, but may underestimate SEs if there is significant spatial autocorrelation and significant correlations between air pollution and the smoothed surface of mortality. Therefore, evidence of spatial autocorrelation was carefully evaluated and tested using the Bartlett test.[29] The correlations of residual mortality with distance between metropolitan areas were graphically examined.

Analyses were also conducted of effect modification by age, sex, smoking status, occupational exposure, and education. Finally, models were fit using a variety of alternative pollution indices, including gaseous pollutants. Specifically, models were estimated separately for each of the pollution variables listed in Table 1, while also including all of the other risk factor variables.

RESULTS

Fine particulate air pollution generally declined in the United States during the follow-up period of this study. Figure 1 plots mean $PM_{2.5}$ concentrations for 1999-2000 over mean $PM_{2.5}$ concentrations for 1979-

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1983 for the 51 cities in which paired data were available. The concentrations of $PM_{2.5}$ were lower in 1999-2000 than in 1979-1983 for most cities, with the largest reduction observed in the cities with the highest concentrations of pollution during 1979-1983. Mean $PM_{2.5}$ levels in the 2 periods were highly correlated (r = 0.78). The rank ordering of cities by relative pollution levels remained nearly the same. Therefore, the relative levels of fine particle concentrations were similar whether based on measurements at the beginning of the study period, shortly following the study period, or an average of the 2.

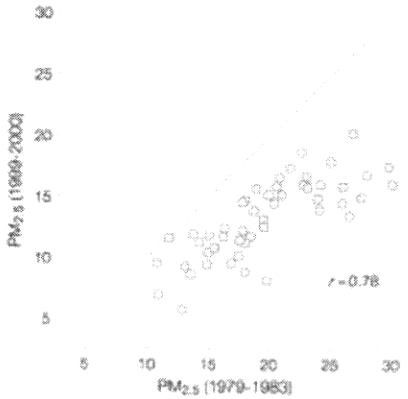

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Figure 1. Mean Fine Particles Measuring Less Than 2.5 µm in Diameter ($PM_{2.5}$)

Mean $PM_{2.5}$ concentrations in micrograms per meters cubed for 1999-2000 are plotted along with concentrations for 1979-1983 for the 51 metropolitan areas with paired pollution data. The dotted line is a reference 45°-equality line.

As reported in Table 2, all 3 indices of fine particulate air pollution were associated with all-cause, cardiopulmonary, and lung cancer mortality, but not mortality from all other causes combined. Figure 2 presents the nonparametric smoothed exposure response relationships between cause-specific mortality and $PM_{2.5}$ (average). The log RRs for all-cause, cardiopulmonary, and lung cancer mortality increased across the gradient of fine particulate matter. Goodness-of-fit tests indicated that the associations were not significantly different from linear associations (P>.20).

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Table 2. Adjusted Mortality Relative Risk (RR) Associated With a 10-µg/m^3 Change in Fine Particles Measuring Less Than 2.5 µm in Diameter

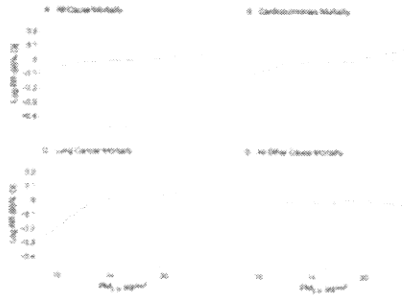

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Figure 2. Nonparametric Smoothed Exposure Response Relationship

Vertical lines along x-axes indicate rug or frequency plot of mean fine particulate pollution; $PM_{2.5}$, mean fine particles measuring less than 2.5 µm in diameter; RR, relative risk; and CI, confidence interval.

The fine particle mortality RR ratios from various alternative modeling approaches and assumptions are presented in Figure 3. After controlling for smoking, education, and marital status, the controlled forward stepwise inclusion of additional covariates had little influence on the estimated associations with fine particulate air pollution on cardiopulmonary and lung cancer mortality. As expected, cigarette smoking was highly significantly associated with elevated risk of all-cause, cardiopulmonary, and lung cancer mortality ($P<.001$). Estimated RRs for an average current smoker (men and women combined, 22 cigarettes/day for 33.5 years, with initiation before age 18 years) were equal to 2.58, 2.89, and 14.80 for all-cause, cardiopulmonary, and lung cancer mortality, respectively. Statistically significant, but substantially smaller and less robust associations, were also observed for education, marital status, BMI, alcohol consumption, occupational exposure, and diet variables. Although many of these covariates were also statistically associated with mortality, the risk estimates of pollution-related mortality were not highly sensitive to the inclusion of these additional covariates.

Figure 3. Mortality Relative Risk (RR) Ratio Associated With 10-µg/m^3 Differences of $PM_{2.5}$ Concentrations

Data presented are for 1979-1983 for the different causes of death, with various levels of controlling for individual risk factors, and using alternative modeling approaches. The 3 models with spatial smoothing allow for increasingly aggressive fitting of the spatial structure. Plus sign indicates model included previous variables (ie, smoking included stratification by age, sex, and race); $PM_{2.5}$, mean fine particles measuring less than 2.5 µm in diameter; and CI, confidence interval.

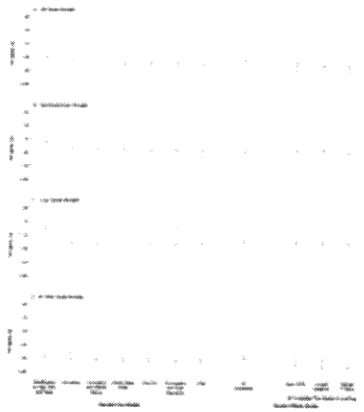

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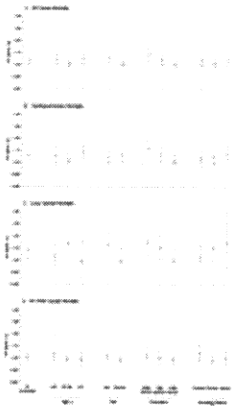
Figure 3 also demonstrates that the introduction of the random-effects component to the model resulted in larger SEs of the estimates and, therefore, somewhat wider 95% confidence intervals. There was no evidence of statistically significant spatial autocorrelation in the survival data based on the Bartlett test ($P>.20$) after controlling for fine particulate air pollution and the various individual risk factors. Furthermore, graphical examination of the correlations of the residual mortality with distance between metropolitan areas did not reveal significant spatial autocorrelation (results not shown). Nevertheless, the incorporation of spatial smoothing was included to further investigate the robustness of the estimated particulate pollution effect. Effect estimates were not highly sensitive to the incorporation of spatial smoothing to account for regional clustering or other spatial patterns in the data.

Figure 4 presents fine particle air pollution–related mortality RR ratios after stratifying by age, sex, education, and smoking status, and adjusting for all other risk factors. The differences across age and sex strata were not generally consistent or statistically significant. However, a consistent pattern emerged from this stratified analysis: the association with particulate pollution was stronger for both cardiopulmonary and lung cancer mortality for participants with less education. Also, for both cardiopulmonary and lung cancer mortality, the RR estimates were higher for nonsmokers.

Figure 4. Adjusted Mortality Relative Risk (RR) Ratio Associated With 10-μg/m^3 Differences of $PM_{2.5}$ Concentrations



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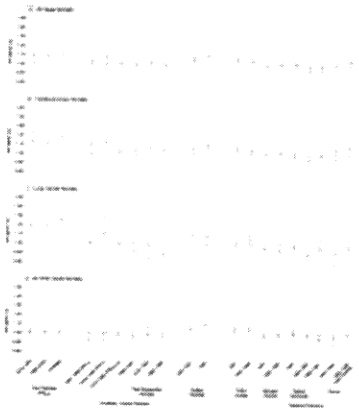
Data presented are for 1979-1983 for the different causes of death stratified by age, sex, education, and smoking status. $PM_{2.5}$ indicates mean fine particles measuring less than 2.5 µm in diameter; CI, confidence interval.

Figure 5 summarizes the associations between mortality risk and air pollutant concentrations listed in Table 1. Statistically significant and relatively consistent mortality associations existed for all measures of fine particulate exposure, including $PM_{2.5}$ and sulfate particles. Weaker less consistent mortality associations were observed with PM_{10} and PM_{15}. Measures of the coarse particle fraction ($PM_{15-2.5}$) and total suspended particles were not consistently associated with mortality. Of the gaseous pollutants, only sulfur dioxide was associated with elevated mortality risk. Interestingly, measures of $PM_{2.5}$ were associated with all-cause cardiopulmonary, and lung cancer mortality, but not with all other mortality. However, sulfur oxide pollution (as measured by sulfate particles and/or sulfur dioxide) was significantly associated with mortality from all other causes in addition to all-cause, cardiopulmonary, and lung cancer mortality.

Figure 5. Adjusted Mortality Relative Risk (RR) Ratio Evaluated at Subject-Weighted Mean Concentrations

$PM_{2.5}$ indicates particles measuring less than 2.5 µm in diameter; PM_{10}, particles measuring less than 10 µm in diameter; PM_{15}, particles measuring less than 15 µm in diameter; $PM_{15-2.5}$, particles measuring between 2.5 and 15 µm in diameter; and CI, confidence interval.



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COMMENT

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This study demonstrated associations between ambient fine particulate air pollution and elevated risks of both cardiopulmonary and lung cancer mortality. Each 10-μg/m^3 elevation in long-term average $PM_{2.5}$ ambient concentrations was associated with approximately a 4%, 6%, and 8% increased risk of all-cause, cardiopulmonary, and lung cancer mortality, respectively, although the magnitude of the effect somewhat depended on the time frame of pollution monitoring. In addition, this analysis addresses many of the important questions concerning the earlier, more limited analysis of the large CPS-II cohort, including the following issues.

First, does the apparent association between pollution and mortality persist with longer follow-up and as the cohort ages and dies? The present analysis more than doubled the follow-up time to more than 16 years, resulting in approximately triple the number of deaths, yet the associations between pollution and mortality persisted.

Second, can the association between fine particulate air pollution and increased cardiopulmonary and lung cancer mortality be due to inadequate control of important individual risk factors? After aggressively controlling for smoking, the estimated fine particulate pollution effect on mortality was remarkably robust. When the analysis was stratified by smoking status, the estimated pollution effect on both cardiopulmonary and lung cancer mortality was strongest for never smokers vs former or current smokers. This analysis also controlled for education, marital status, BMI, and alcohol consumption. This analysis used improved variables to control for occupational exposures and incorporated diet variables that accounted for total fat consumption, as well as for

consumption of vegetables, citrus, and high-fiber grains. The mortality associations with fine particulate air pollution were largely unaffected by the inclusion of these individual risk factors in the models. The data on smoking and other individual risk factors, however, were obtained directly by questionnaire at time of enrollment and do not reflect changes that may have occurred following enrollment. The lack of risk factor follow-up data results in some misclassification of exposure, reduces the precision of control for risk factors, and constrains our ability to differentiate time dependency.

Third, are the associations between fine particulate air pollution and mortality due to regional or other spatial differences that are not adequately controlled for in the analysis? If there are unmeasured or inadequately modeled risk factors that are different across locations, then spatial clustering will occur. If this clustering is independent or random across metropolitan areas, then the spatial clustering can be modeled by adding a random-effects component to the Cox proportional hazards model as was done in our analysis. The clustering may not be independent or random across metropolitan areas due to inadequately measured or modeled risk factors (either individual or ecological). If these inadequately measured or modeled risk factors are also spatially correlated with air pollution, then biased pollution effects estimates may occur due to confounding. However, in this analysis, significant spatial autocorrelation was not observed after controlling for fine particulate air pollution and the various individual risk factors. Furthermore, to minimize any potential confounding bias, sensitivity analyses, which directly modeled spatial trends using nonparametric smoothing techniques, were conducted. A contribution of this analysis is that it included the incorporation of both random effects and nonparametric spatial smoothing components to the Cox proportional hazards model. Even after accounting for random effects across metropolitan areas and aggressively modeling a spatial structure that accounts for regional differences, the association between fine particulate air pollution and cardiopulmonary and lung cancer mortality persists.

Fourth, is mortality associated primarily with fine particulate air pollution or is mortality also associated with other measures of particulate air pollution, such as PM_{10}, total suspended particles, or with various gaseous pollutants? Elevated mortality risks were associated primarily with measures of fine particulate and sulfur oxide pollution. Coarse particles and gaseous pollutants, except for sulfur dioxide, were generally not significantly associated with elevated mortality risk.

Fifth, what is the shape of the concentration-response function? Within the range of pollution observed in this analysis, the concentration-response function appears to be monotonic and nearly linear. However, this does not preclude a leveling off (or even steepening) at much higher levels of air pollution.

Sixth, how large is the estimated mortality effect of exposure to fine particulate air pollution relative to other risk factors? A detailed description and interpretation of the many individual risk factors that are controlled for in the analysis goes well beyond the scope of this report. However, the mortality risk associated with cigarette smoking has been well documented using the CPS-II cohort.[16] The risk imposed by exposure to fine particulate air pollution is obviously much smaller than the risk of cigarette smoking. Another risk factor that has been well documented using the CPS-II cohort data is body mass as measured by BMI.[30] The Word Health Organization has categorized BMI values between 18.5-24.9 kg/m^2 as normal; 25-29.9 kg/m^2, grade 1 overweight; 30-39.9 kg/m^2, grade 2 overweight; and 40 kg/m^2 or higher, grade 3 overweight.[31] In the present analysis, BMI

values and BMI values squared were included in the proportional hazards models. Consistent with previous ACS analysis,[30] BMI was significantly associated with mortality, optimal BMI was between approximately 23.5 and 24.9 kg/m^2, and the RR of mortality for different BMI values relative to the optimal were dependent on sex and smoking status. For example, the RRs associated with BMI values between 30.0 and 31.9 kg/m^2(vs optimal) would be up to approximately 1.33 for never smokers. Based on these calculations, mortality risks associated with fine particulate air pollution at levels found in more polluted US metropolitan areas are less than those associated with substantial obesity (grade 3 overweight), but comparable with the estimated effect of being moderately overweight (grade 1 to 2).

In conclusion, the findings of this study provide the strongest evidence to date that long-term exposure to fine particulate air pollution common to many metropolitan areas is an important risk factor for cardiopulmonary mortality. In addition, the large cohort and extended follow-up have provided an unprecedented opportunity to evaluate associations between air pollution and lung cancer mortality. Elevated fine particulate air pollution exposures were associated with significant increases in lung cancer mortality. Although potential effects of other unaccounted for factors cannot be excluded with certainty, the associations between fine particulate air pollution and lung cancer mortality, as well as cardiopulmonary mortality, are observed even after controlling for cigarette smoking, BMI, diet, occupational exposure, other individual risk factors, and after controlling for regional and other spatial differences.

AUTHOR INFORMATION

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Original Contribution

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Association of Low-Level Ozone and Fine Particles With Respiratory Symptoms in Children With Asthma

Janneane F. Gent, PhD; Elizabeth W. Triche, PhD; Theodore R. Holford, PhD; Kathleen Belanger, PhD; Michael B. Bracken, PhD; William S. Beckett, MD; Brian P. Leaderer, PhD

JAMA. 2003;290:1859-1867.

ABSTRACT

Context Exposure to ozone and particulate matter of 2.5 μm or less ($PM_{2.5}$) in air at levels above current US Environmental Protection Agency (EPA) standards is a risk factor for respiratory symptoms in children with asthma.

Objective To examine simultaneous effects of ozone and $PM_{2.5}$ at levels below EPA standards on daily respiratory symptoms and rescue medication use among children with asthma.

Design, Setting, and Participants Daily respiratory symptoms and medication use were examined prospectively for 271 children younger than 12 years with physician-diagnosed, active asthma residing in southern New England. Exposure to ambient concentrations of ozone and $PM_{2.5}$ from April 1 through September 30, 2001, was assessed using ozone (peak 1-hour and 8-hour) and 24-hour $PM_{2.5}$. Logistic regression analyses using generalized estimating equations were performed separately for maintenance medication users (n = 130) and nonusers (n = 141). Associations between pollutants (adjusted for temperature, controlling for

same- and previous-day levels) and respiratory symptoms and use of rescue medication were evaluated.

Main Outcome Measures Respiratory symptoms and rescue medication use recorded on calendars by subjects' mothers.

Results Mean (SD) levels were 59 (19) ppb (1-hour average) and 51 (16) ppb (8-hour average) for ozone and 13 (8) $\mu g/m^3$ for $PM_{2.5}$. In copollutant models, ozone level but not $PM_{2.5}$ was significantly associated with respiratory symptoms and rescue medication use among children using maintenance medication; a 50-ppb increase in 1-hour ozone was associated with increased likelihood of wheeze (by 35%) and chest tightness (by 47%). The highest levels of ozone (1-hour or 8-hour averages) were associated with increased shortness of breath and rescue medication use. No significant, exposure-dependent associations were observed for any outcome by any pollutant among children who did not use maintenance medication.

Conclusion Asthmatic children using maintenance medication are particularly vulnerable to ozone, controlling for exposure to fine particles, at levels below EPA standards.

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Children with asthma are particularly vulnerable to the adverse health effects of high levels of **air pollution**. Studies of children with asthma living in some of the most highly polluted regions of the world conclude that exposure to levels of ozone or particulate matter (especially particles ≤2.5 μm in diameter [$PM_{2.5}$]) regularly in excess of US Environmental Protection Agency (EPA) air quality standards (120 ppb [1-hour average] and 80 ppb [8-hour average] for ozone and 65 $\mu g/m^3$ for 24-hour $PM_{2.5}$) significantly enhances the risk of respiratory symptoms, asthma medication use, and reduced lung function.[1-5]

Studies of children with asthma living in regions with levels of pollution within or near compliance with EPA air quality standards suggest that the current standards do not protect these more vulnerable members of the population.[6-10] Asthma severity, as measured by symptoms, medication use, restrictions in activity, or use of medical services, has been shown to be affected by exposure to ozone (1-hour maximum measurement[6-10] or 8-hour average[6-9]), particles 10 μm or smaller (PM_{10}),[6, 8] or $PM_{2.5}$ (12-hour total).[6]

Of interest in many recent studies of children with asthma are the simultaneous effects of ozone and particulates on asthma severity.[2-3,8] Simultaneous exposure to high levels of both ozone and $PM_{2.5}$ (fine particles)[2] or PM_{10}(coarse particles)[3] found in Mexico City, Mexico, contributed to increased respiratory symptoms among children with asthma. In a region of lower pollution, asthma symptoms were associated with both ozone and course particles.[8] In the current study, we examined the simultaneous

effects of ozone and fine particles on daily respiratory symptoms and rescue medication use of children with asthma residing in southern New England during spring and summer 2001.

METHODS

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Participants

The study participants were 271 children from a cohort of families living in Connecticut and the Springfield area of Massachusetts who were participating in a study of asthma development.[11-12] From 1997 through 1999, 1002 infants born to families with at least 1 child with physician-diagnosed asthma were enrolled in the original birth cohort. Beginning in 2000, eligible asthmatic siblings (1 per cohort family) were identified and invited to participate in a 1-year prospective study of asthma severity. Eligibility criteria were that the child was younger than 12 years at the time of enrollment and had exhibited respiratory symptoms or used asthma medication within the previous 12 months. Included in the current analysis are subjects enrolled for all or part of the 183-day sampling period (April 1 through September 30, 2001), which includes the summertime, high-ozone pollution months in this region. Of 357 children identified as being eligible for inclusion in the current analysis, 56 refused follow-up, 16 were lost to follow-up, and 14 withdrew before April 1, 2001, leaving a total of 271 (76%). The Human Investigation Committee of Yale University, New Haven, Conn, approved this study, and all respondents (mothers of study subjects) gave informed consent before participation.

Data Collection

Demographic information and medical histories were collected during a home interview with the mother at enrollment. Daily respiratory symptoms (wheeze, persistent cough, chest tightness, shortness of breath) and medication use (maintenance medications, including inhaled or systemic steroids, cromolyn sodium, and leukotriene inhibitors, and rescue medications, including bronchodilators) were recorded on symptom and medication calendars by the child's mother and collected through monthly telephone interviews. Additional information about the previous 12 months was collected at an exit interview (eg, dates the child had been away from the southern New England region during the study year).

Air Quality Assessment

Study subjects resided in a 6691-square mile area in Connecticut and the Springfield area of Massachusetts. All ambient air quality monitoring sites (14 sites for ozone, 10 in Connecticut and 4 in Massachusetts; 4 sites for daily $PM_{2.5}$, 2 in Connecticut and 2 in Massachusetts; 13 temperature sites, 12 in Connecticut and 1 in Massachusetts) were located within a 52.5-mile radius centered at Southington, Conn (14 miles southwest of Hartford). The maximum distance between sites was 105 miles; the minimum distance was 4 miles. The Departments of Environmental Protection (DEPs) of Connecticut and Massachusetts provided measurements for hourly ozone concentrations and temperatures and daily 24-hour $PM_{2.5}$ (total $PM_{2.5}$ accumulated during 24

hours). Since both ozone and fine particle pollutants, as well as meteorological variables, tend to be regional,[13] the maximum daily 1-hour average (mean over 1 hour) and the 8-hour rolling average (mean over previous 8 hours) for ozone, daily $PM_{2.5}$ concentration, and maximum daily temperature were averaged across monitoring sites. Between-site correlation coefficients (Pearson *r*) were high for the 4 daily $PM_{2.5}$ sites (median $r = 0.91$; range, 0.84-0.95) and the 13 temperature sites (median $r = 0.97$; range, 0.85-0.99). There was more variability among the 14 ozone monitoring sites (median $r = 0.83$; range, 0.50-0.97 for the 1-hour average; and median $r = 0.81$; range, 0.47-0.97 for the 8-hour average). For technical details on ambient air quality monitoring, see the Web sites for the Connecticut DEP[14] and the Massachusetts DEP.[15]

Data Analysis

To examine the effects of ozone and $PM_{2.5}$ on children with different degrees of asthma severity, children were divided into 2 groups: those who used any maintenance medication during the 183-day observation period (n = 130) and those who did not (n = 141). Use of maintenance medication was used as a proxy for asthma severity to avoid using the outcome measures (respiratory symptoms and rescue medication use) in the assessment of severity. Logistic regression analyses, using generalized estimating equations (PROC GENMOD with AR1 autoregressive structure in SAS statistical software)[16-18] and adjusted for maximum daily temperature, were used to evaluate the association between levels of ozone and $PM_{2.5}$, with presence or absence of specific respiratory symptoms or rescue medication use. Using a repeated-measures technique permitted each subject to serve as his or her own control; therefore, personal variables (eg, race and other sociodemographic factors) that would not change during the study were not included in the models. Subgroup analysis, which included either 17 160 observations (an average of 132 days of data for 130 users of maintenance medication) or 19 035 observations (135 days for 141 nonusers of maintenance medication), focused directly on the association between exposures and health effects.

Exposure variables were categorized into quintiles, then entered into the model as dummy variables. The reference category for each was the lowest quintile. Both same-day and previous-day levels of ozone and $PM_{2.5}$ were examined. Analyses were performed separately for each severity group and each outcome. In single-pollutant models, a test for linear trend was performed by examining the model when the pollutant was entered as a continuous variable instead of as quintiles. In copollutant models, a test for goodness of fit was performed using the Hosmer-Lemeshow statistic for logistic regression. Significance level for all tests was set at .05.

RESULTS

Descriptive Statistics

Levels of ozone, $PM_{2.5}$, and temperature from April through September 2001 are summarized in Table 1 and Figure 1. The EPA 1-hour standard (120 ppb) was exceeded on 3 days, and the 8-hour ozone standard

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(80 ppb) was exceeded on 10 days of the 183 days of observation. There were no days when the level of $PM_{2.5}$ exceeded the EPA 24-hour standard of 65 μg/m^3. There was a strong correlation between ozone and fine particles ($PM_{2.5}$ vs 1-hour average ozone r = 0.77 vs 8-hour average r = 0.74) (Table 2).

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Table 1. Ozone, Particulate Matter of 2.5 μm or Less ($PM_{2.5}$), and Temperature in Southern New England, April 1 to September 30, 2001

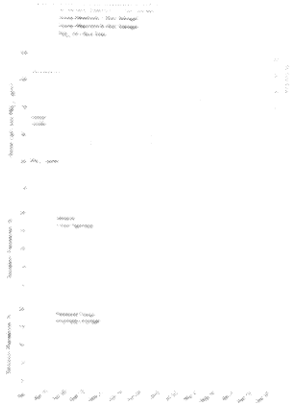

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Figure. Daily Levels of Ozone (Both 1-Hour Average and 8-Hour Average), Particulate Matter of 2.5 μm or Less ($PM_{2.5}$), and Daily Maximum Temperature, With Daily Prevalence of Respiratory Symptoms for Users of Asthma Maintenance Medication (n = 130) for Southern New England, April 1 through September 30, 2001

Dotted lines at 80 ppb and 120 ppb indicate Environmental Protection Agency standards for 8-hour average and 1-hour average ozone, respectively. Note that daily exposure levels shown here are the result of averaging over regional monitoring sites (14 ozone, 4 $PM_{2.5}$, and 13 temperature sites).

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Table 2. Pearson Correlation Coefficients for Same Day and Previous Day Levels of Ozone and Particulate Matter of 2.5 μm or Less ($PM_{2.5}$)

There were no significant differences between the users (n = 130) of maintenance medication and nonusers (n = 141) for mean (SD) age of study subjects (age on April 1, 2001, for users, 8.8 [2.0] years [range, 2.4-12.7 years]; age of nonusers, 8.3 [2.2] years [range, 2.0-12.6 years]; t test P = .71) or mean days of participation (mean participation for users, 132 [48] days [range, 3-183 days]; mean participation for nonusers, 135 [51] days [range, 5-183 days]; t test P = .50). Sex and ethnicity did not differ by medication use. Nearly two thirds of each group were male (users, 64.6%; nonusers, 64.5%; χ^2 test P = .99), and most

children in each group were white, with smaller numbers of black and Hispanic children (users, 80.0%, 8.5%, and 11.5%, respectively; nonusers, 70.9%, 11.4%, and 17.7%, respectively; χ^2 test $P = .22$). Compared with nonusers of maintenance medication, users had significantly more days of all respiratory symptoms and rescue medication use: 50% of this group experienced approximately 1 week of persistent cough or wheeze, had 2 to 3 days of chest tightness or shortness of breath, and used rescue medication for nearly 3 weeks during the 26-week study period. At least half of all nonusers experienced no symptoms and did not use rescue medication during this same period (Table 3). Daily prevalence of symptoms for users of maintenance medication is shown in Figure 1. With the exception of somewhat higher rates of symptoms in the early spring and late summer when the temperatures tended to be lowest, there was overall conformity of reporting all 4 symptoms across the observation period.

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Table 3. Rates of Respiratory Symptoms and Rescue Medication Use for Study Subjects Stratified by Use of Maintenance Medication (Southern New England, April 1-September 30, 2001)*

Single-Pollutant Models for Users of Maintenance Medication

Ozone (1-Hour Average). An ozone concentration of 51.6 ppb or higher (the top 3 quintiles of the distribution of the maximum 1-hour average) on the same day as the reported symptom was the only exposure variable associated with an increased likelihood of wheeze (by 16%, 16%, and 22%, respectively) (Table 4, model 1). A 4% increase in bronchodilator use was also associated with same-day levels of ozone (51.6-58.8 ppb) (Table 4, model 1). Previous-day levels of maximum 1-hour average ozone were associated with increased likelihoods of persistent cough (16% increase for levels ≥72.7 ppb), chest tightness (by 21%, 30%, and 37% for levels ≥51.6 ppb), and shortness of breath (by 22% and 30% for levels ≥58.9 ppb) (Table 4, Model 2). The effects of previous-day levels on chest tightness and shortness of breath were significant in an exposure-dependent way: for each 50-ppb increase in previous-day, 1-hour ozone levels, the likelihood of these symptoms increased by 26% (odds ratio [OR], 1.26; 95% confidence interval [CI], 1.0-1.48) and 22% (OR, 1.22; 95% CI, 1.02-1.45), respectively.

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Table 4. Odds Ratios From 6 Single-Pollutant Logistic Regression Models of Respiratory Symptoms or Rescue Medication Use of Maintenance Medication Users (n = 130) (Southern New England, April 1 to September 30, 2001)*

Ozone (8-Hour Average). An ozone concentration of 63.3 ppb or higher, measured as the maximum 8-hour average on the same day as the reported symptom, was associated with a 30% increase in chest tightness (Table 4, model 3). Previous-day levels of 52.1 ppb or higher were associated with increased chest tightness, persistent cough, and shortness of breath (Table 4, model 4). As was the case with 1-hour ozone levels, the associations with the symptoms of chest tightness and shortness of

breath were exposure dependent: a 50-ppb increase in previous-day, 8-hour ozone level increased the likelihood of chest tightness (OR, 1.33; 95% CI, 1.09-1.62) and shortness of breath (OR, 1.30; 95% CI, 1.05-1.61).

$PM_{2.5}$. Increased likelihood of chest tightness was associated with same-day levels of $PM_{2.5}$ from 12.1 to 18.9 $\mu g/m^3$ (Table 4, model 5). Previous-day levels of 19.0 $\mu g/m^3$ or higher were associated with persistent cough, chest tightness, and shortness of breath (Table 4, model 6).

Copollutant Models for Users of Maintenance Medication

In logistic regression models of both ozone and fine particles for children taking maintenance medication, an increased likelihood of respiratory symptoms was associated with levels of ozone on the same day, previous day, or both; and increased bronchodilator use was associated with the highest level of same-day ozone. Neither respiratory symptoms nor bronchodilator use were associated with level of fine particles.

Ozone (1-Hour Average) and $PM_{2.5}$. Increased likelihood of wheeze was associated with same-day levels of 1-hour average ozone of 43.2 ppb or higher in an exposure-dependent manner (Table 5). When ozone is entered into this same model as a continuous variable, a 50-ppb increase in same-day ozone increases the likelihood of wheeze by 35% (OR, 1.35; 95% CI, 1.11-1.65). None of the exposure variables was associated with an increased likelihood of persistent cough, and only 1-hour average ozone levels between 43.2 and 51.5 ppb were associated with a decreased likelihood of cough (OR, 0.88; 95% CI, 0.78-0.99). The likelihood of chest tightness was significantly increased by same-day (≥58.9 ppb) and previous-day (≥51.6 ppb) levels of ozone in an exposure-dependent way. The likelihood of chest tightness increases by 47% (OR, 1.47; 95% CI, 1.18-1.84) for each 50-ppb increase in same-day levels of ozone, and by 42% (OR, 1.42; 95% CI, 1.14-1.78) for each 50-ppb increase in previous-day levels. Shortness of breath and ozone were similarly associated; likelihood of the symptom was increased by same-day levels of 72.7 ppb or higher and previous-day levels from 58.9 to 72.6 ppb (by 32%). Increased likelihood of bronchodilator use was associated with same-day levels of 72.7 ppb or higher (Table 5).

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Table 5. Odds Ratios From the Copollutant Logistic Regression Model for Same-Day and Previous-Day Levels of Ozone (1-Hour Average) and Particulate Matter of 2.5 µm or Less ($PM_{2.5}$) Related to Each Respiratory Symptom or Rescue Medication Use of Maintenance Medication Users (n = 130) (Southern New England, April 1 to September 30, 2001)*

Ozone (8-Hour Average) and $PM^{2.5}$. For 8-hour average ozone levels, the likelihood of chest tightness was increased by same-day (OR, 1.64; 95% CI, 1.23-2.17) and previous-day (OR, 1.45; 95% CI, 1.10-1.92) levels of 63.3 ppb or higher. Shortness of breath was similarly associated; likelihood of the symptom was increased by same-day (OR, 1.45; 95% CI, 1.10-1.91) and

previous-day (OR, 1.31; 95% CI, 1.00-1.71) levels of 63.3 ppb or higher. As seen for the highest 1-hour ozone level, increased bronchodilator use was associated with same-day levels of 63.3 ppb or higher for 8-hour ozone measurements (OR, 1.09; 95% CI, 1.02-1.17).

Nonusers of Maintenance Medication

Single-Pollutant Models. Similar analyses for nonusers of maintenance medication revealed no significant associations among the top 3 concentration quintiles for the exposure variables and respiratory symptoms or bronchodilator use. For example, chest tightness was not significantly associated with same-day, 1-hour ozone levels of 72.7 ppb or higher (OR, 0.92; 95% CI, 0.68-1.25), same-day, 8-hour ozone levels of 63.3 ppb or higher (OR, 1.17; 95% CI, 0.72-1.92), or previous-day, 8-hour ozone levels of 63.3 ppb or higher (OR, 0.99; 95% CI, 0.74-1.35). The only significant association was an increased likelihood of wheeze (OR, 1.20; 95% CI, 1.00-1.43) in the presence of previous-day, 8-hour average ozone between 39.1 and 45.8 ppb (the second quintile).

Copollutant Models. For the children who were not users of asthma maintenance medication, neither fine particles nor 1-hour average ozone levels were associated with increased likelihoods of respiratory symptoms in copollutant models. Increased bronchodilator use was associated with previous-day fine particle concentrations between 9.0 and 12.0 $\mu g/m^3$ in the model with 1-hour ozone levels (Table 6) and with these same levels in the model with 8-hour ozone (OR, 1.30; 95% CI, 1.02-1.65). An increase in the likelihood of wheeze was associated with 8-hour ozone, but only for concentrations between 39.1 and 45.8 ppb on the same day (OR, 1.33; 95% CI, 1.00-1.77) or the previous day (OR, 1.31; 95% CI, 1.05-1.63) and between 52.1 and 63.2 ppb for same-day levels (OR, 1.35; 95% CI, 1.00-1.81).

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Table 6. Odds Ratios From the Copollutant Logistic Regression Model for Same-Day and Previous-Day Levels of Ozone (1-Hour Average) and Particulate Matter of 2.5 µm or Less ($PM_{2.5}$) Related to Respiratory Symptoms and Rescue Medication Use of Maintenance Medication Nonusers (n = 141) (Southern New England, April 1 to September 30, 2001)*

COMMENT

In models controlling for ambient fine particle concentration and typically at levels below EPA air quality standards, daily ambient ozone was found to be significantly associated with increased risk of respiratory symptoms and increased use of rescue medication among children with asthma severe enough to require maintenance medication. Study strengths include frequent telephone follow-up to collect information on daily calendar-recorded symptoms and medication use; absence of reporting bias between symptoms and

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regionally collected ambient air quality data; the use of both the maximum 1-hour average (sensitive to spikes in concentration) and 8-hour average (a measure of short-term, cumulative exposure) to assess daily ambient ozone levels; use of $PM_{2.5}$ levels measured daily; and examination of the simultaneous effects of ozone and $PM_{2.5}$ at levels near or below current EPA ambient standards. Our results contribute to the limited literature examining the simultaneous effects of ozone and suspended particles on daily respiratory symptoms for a sensitive subpopulation in models adjusted for daily temperature.

One potential limitation of the study is that ambient ozone and particle concentrations were represented as means over regional sites. For the 14 ozone sites on any particular day, the mean (SD) ratio of maximum to minimum reading was 1.70 (0.50), which is similar to the mean ratio of upper to lower limit of each quintile of the summer ozone distribution of 1.38 (0.30) from our study. This suggests that the analysis using quintiles of the ozone distribution captures the variability that exists in the study region. Variability among $PM_{2.5}$ sites was less, but a potential limitation is that there were only 4 sites with daily measurements. However, a comparison between readings from these 4 sites and readings from the 10 sites with $PM_{2.5}$ readings every 3 days revealed good agreement. For the 61 days all sites had in common, the 10-site mean (SD) was 13.8 (8.2) compared with 12.8 (7.7) $\mu g/m^3$ for the 4 sites, and the Pearson correlation was 0.97.

Another potential limitation is the lack of personal variables (eg, race) in the regression models. However, by taking advantage of the repeated measurements we had for each subject, we were able to use each subject as his or her own control. The sample of 271 children contributed 36 195 person-days of observations to the analyses. Our within-subjects analytic approach permitted a strong test of the associations between ambient **air pollution** and health outcomes, and personal variables, since they would not vary within subjects, could be excluded from the models.

In this study, we did not consider medical care utilization as an outcome. Since this was not a clinic-based study, we did not have access to records to confirm medical visit dates. However, medical records are not necessarily more objective than reports of symptoms and medication use, since a number of factors unrelated to symptom severity also influence utilization. Symptoms and medication use vary from day to day and may be a more sensitive indicator of the effects of daily changes in **air pollution** on respiratory health, since not all symptoms result in a physician visit.

In our copollutant models, ozone but not fine particles significantly predicted increased risk of respiratory symptoms and rescue medication use among children using asthma maintenance medication. We found an immediate (same-day) effect of ozone on wheeze (with the 1-hour ozone metric), chest tightness, and shortness of breath (with both the 1-hour and 8-hour ozone metrics). We also found that previous-day levels of ozone (both metrics) were significantly associated with increased risk of chest tightness and shortness of breath. Goodness-of-fit tests for copollutant models suggest that the models with significant findings (wheeze, chest tightness, and shortness of breath) are reasonably good fits to the data. There were no systematic patterns to the lack of fit for models for persistent cough and bronchodilator use. However, because of repeated measurements, observations were not independent in any of the models, which may affect the interpretation of the Hosmer-Lemeshow statistic. It is possible that the

more frequently reported events of persistent cough and bronchodilator use may be associated with ambient **air pollution** in combination with other factors (eg, activity level) not included in the current study.

Effects of 1-hour ozone among children using asthma maintenance medication, especially the association of same-day ozone with wheeze and previous-day ozone with chest tightness, appear to be more exposure dependent than the effects of small particles. In copollutant models for wheeze and chest tightness, a 50-ppb increase in same-day, 1-hour ozone level increased the likelihood of wheeze by 35% and chest tightness by 47%. However, since particles and ozone were positively correlated, it is difficult to separate their effects in the copollutant models. In the single-pollutant model for chest tightness, a 50-ppb increase in previous-day levels of 1-hour ozone resulted in a 26% increase in the likelihood of having the symptom. When same-day levels of 1-hour ozone were added to the model, the likelihood of this symptom went up to 32%. In the copollutant model, a 50-ppb increase in previous-day, 1-hour ozone level increased the likelihood of chest tightness by 42%. Levels of $PM_{2.5}$ happened to be relatively low and never exceeded EPA standards for the duration of the study period, which likely contributed to the lack of significant particle effects observed in the copollutant models. For our region, an examination of the association between symptoms and particle levels in winter months when ozone is not a factor would help us better understand the role of exposure to small particles on respiratory health.

There is little doubt that children with asthma are especially vulnerable to high levels of **air pollution**. Among a group of asthmatic children (n = 71) living in Mexico City, where levels of ozone have regularly exceeded the EPA standard, multivariate regression analyses of same-day ambient **air pollution** and separate models of previous-day pollution all revealed significant effects of ozone and fine particles on the likelihood of cough (an increase of 8% for each 50-ppb increase in ozone on either the same day or previous day; an increase of 6% or 8% for each 10-$\mu g/m^3$ increase in $PM_{2.5}$ on the same day or previous day) and lower respiratory tract illness (by 7% for each pollutant on the same day or previous day).[2] The effects seen for $PM_{2.5}$ in Mexico City, but not in our study, could be explained by the large difference between the mean (SD) 24-hour concentration of $PM_{2.5}$ in Mexico City (85.7 [30.2] $\mu g/m^3$), which was above the EPA standard of 65 $\mu g/m^3$ and was well above the mean of 13.1 (7.9) $\mu g/m^3$ observed in the current study. In addition, the chemical composition of the fine particles in each region may be different.[2,10] The larger effect of 1-hour ozone that we found could be explained in part by the fact that we stratified our analysis by asthma severity, thereby observing a consistent pattern of increased likelihood of some symptoms of more than 40% in the group with more severe disease and no significant effects among the group with less severe disease.

Our results are consistent with recent studies[7,10] that suggest exposure to lower levels of ozone is associated with respiratory symptoms in children with asthma. Children with asthma who attended a week-long asthma summer camp (a total of 166 children during three 1-week periods compared with our 183-day observation period) in the Connecticut River Valley (the same geographic area as the current study) were exposed to levels of ozone somewhat higher than the current study (mean [SD] 1-hour average, 84 [38] ppb; range, 20-160 ppb). In single-pollutant models, daily levels of same-day ozone were significantly associated with increased chest symptoms, β-agonist use, and decreased lung function.[10] These associations did not change when same-day

levels of sulfate (a primary constituent of $PM_{2.5}$ in this region) were added to the model. In a recent study[7] of 846 children with asthma living in 8 urban areas around the country, ozone at levels comparable to those observed in the current study (mean 8-hour average of 48 ppb compared with our mean of 51 ppb with <5% of the days exceeding the EPA standard of 80 ppb in both studies) was associated, in single-pollutant models, with morning respiratory symptoms (wheeze, cough, or chest tightness). Although the data were not shown, the authors of each study also noted that adding copollutants to their models did not appreciably confound the effect of ozone. Both studies concluded that ozone, even at levels lower than current EPA standards, is strongly associated with adverse respiratory health effects in children with asthma.

Previous environmental chamber studies[19-21] of adults with asthma exposed to ozone for 1 to a few hours have shown relatively little effect on symptoms or lung function. On the other hand, short-term exposure to elevated levels of ozone and particulates in outdoor air has been associated with reduced pulmonary function in otherwise healthy children.[1, 22-23] Our study of asthmatic children under ambient exposure conditions in areas of lower pollution suggests that the more prolonged exposures associated with summertime ozone produce a greater stimulus than chamber exposures, that asthmatic children are more susceptible than asthmatic adults, that effects are delayed and not captured by short-term chamber studies, or that coexposures to other unidentified constituents of ambient air enhance the response to ozone. A recent study supporting this view examined the impact of traffic-reducing changes in Atlanta, Ga, during the 1996 summer Olympic Games.[24] Significant reductions in ozone and particles were associated with significant reductions in acute asthma care events (physician, clinic, or hospital visits) among children aged 1 to 16 years. In analyses including days before, during, and after the Olympics, an increase in daily acute asthma events was associated with levels of 1-hour ozone concentrations beginning at 60 to 89 ppb. Our findings indicate that comparable levels were associated with an increased likelihood of wheeze (≥58.9 ppb), chest tightness (≥58.9 ppb), shortness of breath, and rescue medication use (≥72.7 ppb).

In our study, we defined 2 levels of asthma severity based on maintenance medication use. We reasoned that since we were examining the association of **air pollution** and symptoms, we did not want to use symptoms to define severity. Instead, we used maintenance medication as a proxy for disease severity even though medication use and symptoms will be related. Maintenance medication users had significantly more wheeze, persistent cough, chest tightness, and shortness of breath than the nonusers and used rescue medication significantly more often. Our results strongly suggest that this definition of asthma severity divides the group into 2 levels of vulnerability to **air pollution**.

Our study is a unique combination of a sample of asthmatic children with detailed symptom and medication use followed for a long period and well-measured daily ambient copollutants. These results add to others that suggest that, even at low levels of ambient ozone and controlling for ambient fine particle concentration, children with severe asthma are at a significantly increased risk of experiencing respiratory symptoms.

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Research Article

Ambient Air Pollution and Atherosclerosis in Los Angeles

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Abstract
Associations have been found between long-term exposure to ambient air pollution and cardiovascular morbidity and mortality. The contribution of air pollution to atherosclerosis that underlies many cardiovascular diseases has not been investigated. Animal data suggest that ambient particulate matter (PM) may contribute to atherogenesis. We used data on 798 participants from two clinical trials to investigate the association between atherosclerosis and long-term exposure to ambient PM up to 2.5 μm in aerodynamic diameter ($PM_{2.5}$). Baseline data included assessment of the carotid intima-media thickness (CIMT), a measure of subclinical atherosclerosis. We geocoded subjects' residential areas to assign annual mean concentrations of ambient $PM_{2.5}$. Exposure values were assigned from a $PM_{2.5}$ surface derived from a geostatistical model. Individually assigned annual mean $PM_{2.5}$ concentrations ranged from 5.2 to 26.9 $\mu g/m^3$ (mean, 20.3). For a cross-sectional exposure contrast of 10 $\mu g/m^3$ $PM_{2.5}$, CIMT increased by 5.9% (95% confidence interval, 1-11%). Adjustment for age reduced the coefficients, but further adjustment for covariates indicated robust estimates in the range of 3.9-4.3% (*p*-values, 0.05-0.1). Among older subjects (≥ 60 years of age), women, never smokers, and those reporting lipid-lowering treatment at baseline, the associations of $PM_{2.5}$ and CIMT were larger with the strongest associations in women ≥ 60 years of age (15.7%, 5.7-26.6%). These results represent the first epidemiologic evidence of an association between atherosclerosis and ambient air pollution. Given the leading role of cardiovascular disease as a cause of death and the large populations exposed to ambient $PM_{2.5}$, these findings may be important and need further confirmation. *Key words:* air pollution, atherosclerosis, particulate matter. *Environ Health Perspect* 113:201-206 (2005). doi:10.1289/ehp.7523 available via *http://dx.doi.org/* [Online 22 November 2004]

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Introduction

A large body of epidemiologic evidence suggests associations between ambient air pollution and cardiovascular mortality and morbidity (Peters and Pope 2002; Pope et al. 2004). All of these studies focus on events occurring at a late stage of vascular disease processes. The impact of air pollution on the underlying preclinical conditions remains poorly understood.

We hypothesize that current levels of ambient particulate matter (PM) up to 2.5 μm in aerodynamic diameter ($PM_{2.5}$) may contribute to atherosclerosis, leading to subclinical anatomical changes that play a major role in cardiovascular morbidity and mortality later in life. Animal studies support our hypothesis by showing that inhalation of ambient PM promotes oxidative lung damage, including alveolar and systemic inflammatory responses (Becker et al. 1996; Dye et al. 2001; Fujii et al. 2002; Goto et al. 2004; Suwa et al. 2002; van Eeden et al. 2001).

We investigated the association between residential ambient $PM_{2.5}$ and carotid artery intima-media thickness (CIMT) using prerandomization baseline data from two recent clinical trials conducted in Los Angeles, California (Hodis et al. 2002). CIMT is a well-established quantitative measure of generalized atherosclerosis that correlates well with all of the major cardiovascular risk factors, with coronary artery atherosclerosis, and with clinical cardiovascular events (Mack et al. 2000). It is an established tool for investigating the contribution of long-term exposures such as smoking or passive smoking to subclinical stages of atherosclerosis at any given age (Diez-Roux et al. 1995; Howard et al. 1994, 1998). This is the first study to assess the association of atherosclerosis with air pollution.

Materials and Methods

Population and health assessment. We used baseline health data from two randomized, double-blind, placebo-controlled clinical trials conducted at the University of Southern California Atherosclerosis Research Unit (Hodis et al. 2002). The Vitamin E Atherosclerosis Progression Study (VEAPS) investigated the effects of vitamin E on the progression of atherosclerosis measured by CIMT. The B-Vitamin Atherosclerosis Intervention Trial (BVAIT) focused on the effect of vitamin B supplements on the progression of atherosclerosis (trial in progress). Baseline assessment in both trials included CIMT measured between 1998 and 2003 using the same standardized methods (Hodis et al. 2002; Selzer et al. 1994, 2001). Recruitment of volunteers occurred over the entire Los Angeles Basin, covering a geographic area of approximately 64,000 km^2.

Eligible subjects for the VEAPS trial (n = 353) were men and women ≥ 40 years of age with slightly increased LDL cholesterol (≥ 3.37 mmol/L) but with no clinical signs or symptoms of cardiovascular disease (CVD) (Hodis et al. 2002). Subjects with diabetes, diastolic blood pressure > 100 mm Hg, thyroid disease, serum creatinine > 0.065 mmol/L, life-threatening diseases, or high alcohol intake were excluded.

BVAIT (n = 506) had a similar design to that of VEAPS. Men and women > 40 years of age were prescreened to meet study criteria (fasting plasma homocysteine ≥ 8.5 μmol/L; postmenopausal for women; no evidence of diabetes, heart disease, stroke, or cancer). Subjects were excluded on the basis of any clinical signs or symptoms of CVD, diabetes or fasting serum glucose ≥ 140 mg/dL, triglyceride levels ≥ 150 mg/dL, serum creatinine > 1.6 mg/dL, high blood pressure, untreated thyroid disease, life-threatening disease with prognosis < 5 years, or high alcohol intake.

Thus, our study included "healthy" subjects with biomarkers (elevated LDL cholesterol or homocysteine) that suggested an increased risk of future CVDs (n = 859). Fifty-eight subjects were excluded in the exposure assignment process because they lived outside the area with $PM_{2.5}$ data. Three subjects had missing data in at least one of the covariates used in the models. Our total sample consisted of 798 participants.

Health measures, including CIMT. Our main outcome of interest is CIMT. In both trials, high-resolution B-mode ultrasound images of the right common carotid artery were obtained before the intervention (baseline) with a 7.5-MHz linear array transducer attached to an ATL Ultramark-4 Plus Ultrasound System (Ultramark, Bothell, WA). We used this baseline CIMT measurement as the outcome. Details of this highly reproducible method are published (Hodis et al. 2002; Selzer et al. 1994, 2001). Blood pressure, height, and weight were measured with standard procedures.

The baseline questionnaires included an assessment of all major CVD risk factors and covariates, including clinical events, diet, use of prescription medications, physical activity, current and past smoking and passive smoking, and vitamin supplements. Age, education, and other sociodemographic factors were available for each subject. Fasting blood samples were also drawn for lipid measurements. Data used in our analyses were collected with the same tools in both trials.

Exposure assignment. To assess exposure we chose a novel approach derived from a geographic information system (GIS) and geostatistics. This method allows for assignment of long-term mean ambient concentrations of $PM_{2.5}$ to the ZIP code area of each subject's residential address (Künzli and Tager 2000). The resulting surface of $PM_{2.5}$ covered the entire Los Angeles metropolitan area. The surface is derived from a geostatistical model and data from 23 state and local district monitoring stations (during 2000). These monitors are located across the Los Angeles region to characterize urban levels of pollution. To assign exposure, $PM_{2.5}$ data were interpolated using a combination of a universal kriging model

with a quadratic drift and a multiquadric radial basis function model (Bailey and Gatrell 1995; Burrough and McDonnell 1998). We averaged the two surfaces based on 25-m grid cells. Examination of errors from the universal model showed that > 50% of the study area had assigned values within 15% of monitored concentrations, whereas 67% were within 20%. The larger errors were on the periphery of our study area, where the density of study participants was the lowest. We linked the ZIP code centroids of each subject with the exposure surface through a geocoding database [Environmental Systems Research Institute (ESRI) 2004]. Figure 1 illustrates the $PM_{2.5}$ surface with the geolocated ZIP codes. Individually assigned $PM_{2.5}$ data had a range from 5.2 to 26.9 μg/m^3 (mean, 20.3), thus exceeding the range observed across 156 metropolitan areas used in the largest cohort study of air pollution and mortality (Pope et al. 2002). All models were implemented with ArcScript from ESRI (Redlands, CA).

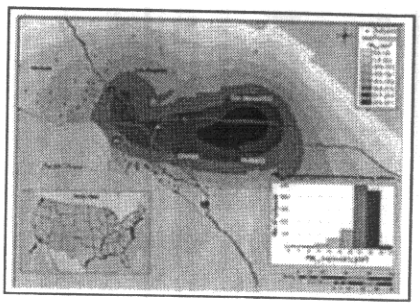


Figure 1. ZIP code locations of the study population geocoded on the $PM_{2.5}$ surface, modeled with 2000 $PM_{2.5}$ data, and distribution of individually assigned concentrations.

Statistical analyses. We tested the univariate and multivariate associations between CIMT and ambient $PM_{2.5}$ using linear regression analyses. Extensive residual diagnostics indicated some heteroskedasticity, which was rectified with the natural log-transformed CIMT. We adjusted for factors that were statistically associated with both CIMT and ambient $PM_{2.5}$ (age, male sex, low education, and low income). Next, we expanded the models using covariates that were associated with either $PM_{2.5}$ or CIMT, including indicator variables for current second-hand smoke exposure and current and former personal smoking. We then added covariates that play a role in atherosclerosis such as blood pressure, LDL cholesterol, or proxy measures such as reporting treatment with antihypertensives or lipid-lowering medications at study entry. These factors may affect the pathophysiologic pathways linking air pollution exposure and atherosclerosis (Ross 1999); thus, such models may overadjust the coefficients. We chose this conservative approach to test the sensitivity of the effect estimates under a broad range of model assumptions.

There is increasing evidence that host factors such as age, sex, or underlying disease and risk profiles may modify the effects of air pollution (Pope et al. 2002; Zanobetti and Schwartz 2002). Furthermore, the finding of atherosclerosis in PM-exposed rabbits was based on a hyperlipidemic trait (Suwa et al. 2002). Therefore, we also stratified by sex, age (< 60 years, ≥ 60 years), smoking status, and lipid-lowering drug therapy.

Results

Table 1 summarizes the main characteristics of the study population and among main subgroups. Table 2 presents the percent change in CIMT in association with a 10 μg/m^3 contrast in ambient $PM_{2.5}$ concentrations for three cross-sectional regression models. The unadjusted model indicates a 5.9% [95% confidence interval (CI), 1-11%] increase in CIMT per 10 μg/m^3 $PM_{2.5}$. For the observed contrast between lowest and highest exposure (20 μg/m^3 $PM_{2.5}$), this corresponds to a 12.1% (2.0-23.1%) increase in CIMT. The only covariate with a substantial effect on the point estimate was age, which reduced the effect from 5.9 to 4.3% (0.4-9%) per 10 μg/m^3 $PM_{2.5}$. This change agrees with the age-related effect modification. Otherwise, effect estimates across the models remained robust, in the range of 3.9-4.3% with *p*-values from 0.05 to 0.1. To corroborate the exposure-response relationship, we also categorized $PM_{2.5}$ levels into quartiles. Figure 2 shows the adjusted mean CIMT across these four groups of equal sample size at the mean levels of the covariates (age, sex, education, and income). The trend across the exposure groups was statistically significant ($p = 0.041$). The unadjusted means of CIMT among these quartiles of exposure were 734, 753, 758, and 774 μm, respectively.

Table 1.

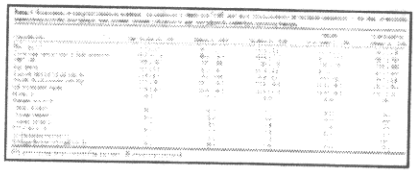
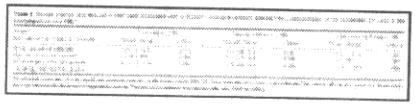
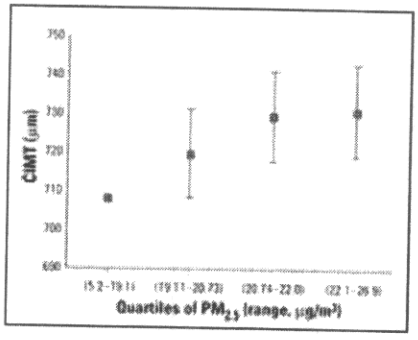


Table 2.





The associations between CIMT and $PM_{2.5}$ were substantially stronger among 109 subjects reporting lipid-lowering medication at study entry, both in men and in women (Table 2, Figure 3). The crude effect reached 15.8% (2-31%) per 10 μg/m^3 $PM_{2.5}$, with adjusted values ranging between 12 and 16%. Despite the small sample size, *p*-values of all models were mostly < 0.1 and often < 0.05.

Results also suggest significant age and sex interactions, with much larger effects in women and in the older age group (Figure 3). Effect estimates in

women were statistically significant and typically in the range of 6-9% per 10 $\mu g/m^3$ $PM_{2.5}$. Associations were strongest among women $\geq$ 60 years of age (n = 186), leading to crude estimates of 19.2% (9-31%). Adjusted coefficients ranged from 14 to 19%, being statistically significant in all models and sensitivity analyses.

Among never smokers (n = 502), the effect estimate reached 6.6% (1.0-12.3%). The estimate was small and not significant in current (n = 30) and former smokers (n = 265).

Figure 2. Mean CIMT ± 1 SE among quartiles of the $PM_{2.5}$ distribution. The *y*-axis shows mean CIMT levels at the population average of the adjustment covariates (age, sex, education, and income). The first quartile is the reference group.

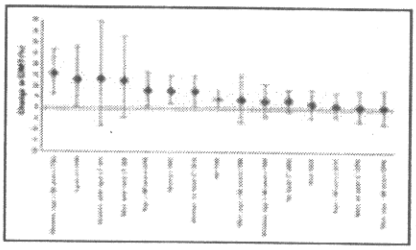


Figure 3. Percent difference and 95% CI in CIMT associated with a 10 $\mu g/m^3$ contrast in ambient $PM_{2.5}$ in all subjects and in subgroups. Lipid-LT, lipid-lowering therapy. All estimates are based on the cross-sectional linear model with log intima-media thickness as the dependent variable and home outdoor $PM_{2.5}$ as the independent variable, adjusted for sex, age, education, and income. Numbers in parentheses are numbers of subjects per group. Data are ordered by size of point estimate; the null effect line is indicated by a dash.

Discussion

Our study presents the first evidence for an association between CIMT and long-term exposure to ambient air pollution. As recently reviewed in a statement of the American Heart Association (Brook et al. 2004) substantial epidemiologic and experimental evidence suggests a contribution of ambient air pollutants on cardiovascular mortality and morbidity. However, these studies focus on acute and subacute effects on cardiac autonomic function, inflammatory or thrombogenic markers, arrhythmia, myocardial infarction, cardiovascular hospital admission, and death. The only outcome considered in long-term air pollution studies has been mortality. The relative risks for acute effects on mortality have been substantially smaller than those observed for long-term associations (Pope et al. 2002; Samet et al. 2000). As shown previously, cohort studies are capable of capturing acute and chronic effects of air pollution on the course of diseases that ultimately lead to premature death (Künzli et al. 2001). In contrast, time-series and panel studies investigate only the associations of event occurrence with the most recent exposure (Künzli et al. 2001). Thus, if air pollution has both acute and cumulative long-term effects, one expects larger mortality coefficients in cohort studies. CIMT reflects long-term past exposure; thus, we provide the first evidence for chronic effects of air pollution on atherogenesis that may in part explain the above mentioned discrepancy between acute and long-term risk estimates (Pope et al. 2002; Samet et al. 2000).

There are several major aspects to be considered in the interpretation of this new finding, mainly the strength in the exposure assignment, the limited evidence for bias, the differences in effects within subgroups, and plausibility.

Exposure assignment. The individual residence-based assignment of exposure represents a substantial improvement over most studies that have relied on central monitors or on binary road buffers combined with basic interpolation (Hoek et al. 2002; Pope et al. 2004). As a sensitivity analysis, we used weighted least-squares models with the weights specified as the inverse of the standard errors from the universal kriging model to down-weight estimates with larger error. In addition, we implemented models based solely on the universal kriging estimate. In both instances results were robust and similar to what we found with our main model.

Time-activity studies show that people spend most of their time in or around home, and our restriction of exposure assessment on residential address captures the most relevant part of exposure (Leech et al. 2002). $PM_{2.5}$ generally displays spatially homogeneous distributions across small areas such as neighborhoods and blocks, and as a result, the ambient conditions at the ZIP code centroid likely reflect the levels expected at home outdoors (Roosli et al. 2000). $PM_{2.5}$ of outdoor origin will also penetrate indoors, and correlations between long-term outdoor PM concentrations and indoor levels of PM from outdoor origin is high (Sarnat et al. 2000). Exposure to ambient air pollution while working and during commute are not included in our exposure term but are considered to be a relevant source of exposure (Riediker et al. 2003). Although most likely a random misclassification with biases toward the null, the errors may affect subgroups differently, thus explaining part of the observed interactions.

In Los Angeles, no clear trends have been observed in $PM_{2.5}$ concentrations over the past 5-10 years. The year 2000 surface characterizes the prevailing mean $PM_{2.5}$ concentrations across several years and can be considered a measure of long-term past exposure. This year also sits in the middle of the baseline recruitment period. Overall, the various limitations in our exposure assignment may add some random error, biasing results toward weaker associations (Thomas et al. 1993).

We also assigned ambient ozone to ZIP code centroids. Inclusion of ozone in the models had no impact on the $PM_{2.5}$ coefficients or the SEs. Ozone and $PM_{2.5}$ were not correlated (r = -0.17), and the $PM_{2.5}$ estimates were not substantially

different in low- and high-ozone regions. The estimates of association for ozone were positive but not statistically significant and much smaller than for $PM_{2.5}$. This finding must be put in context of the specific challenges in determining long-term exposure to ozone, which are substantially different than in the case of PM exposure. In contrast to $PM_{2.5}$ from outdoor origin, ambient ozone levels have lower correlations with personal exposure (Avol et al. 1998; Sarnat et al. 2000, 2002); therefore, the ability to detect effects of ozone will likely be reduced due to greater misclassification.

Biases. Our subjects were a nonrandom sample of "healthy" volunteers with above-average education, meeting strict inclusion criteria for the two clinical trials. Although we cannot exclude some systematic selection biases affecting the cross-sectional data, it is unlikely that subjects with preclinical signs of atherosclerosis would have been more likely to volunteer if they lived in more polluted areas. Although the selection of subjects limits the generalization to other populations, we do not expect this to lead to over- or underestimating the cross-sectional associations. The two trials recruited subjects independently; thus, the effects may be compared across trials to evaluate the potential influence of selecting volunteers. The populations differed with regard to age, smoking habits, baseline LDL and treatment, blood pressure, active and passive smoking, and other relevant factors; thus, the $PM_{2.5}$ coefficients were smaller and were not statistically significant in the VEAPS trial with its younger population. However, after taking these factors into account, the associations with ambient $PM_{2.5}$ were similar. For example, among elderly women of VEAPS (n = 70) and BVAIT (n = 116), the effect estimate was 18.1% (-0.1 to 36.3.%) and 13.6% (2.8-24.4.%), respectively. There is some evidence for larger effects in subjects with cardiovascular risk factors, indicated by prescriptions of lipid-lowering treatment. Our trials excluded subjects with clinically manifest CVDs. Moreover, if air pollution amplifies systemic inflammation among those prone to atherosclerosis, exclusion of subjects with high LDL may be a source of bias. One may expect effect estimates in a less selected, less healthy population to be larger than those reported.

The wealth of baseline data from these clinical trials offered the opportunity to control for a broad array of covariates. Apart from the effect of age adjustment, estimates were robust to numerous combinations of covariates, including income, education, active and passive tobacco smoke, cardiovascular prescriptions, vitamin intake, and physical activity. Uncontrolled or residual confounding appears to be an unlikely explanation for these results. Among women, adjustment for hormone replacement therapies did not affect the $PM_{2.5}$ estimates.

In previous studies, we found that spatial autocorrelation in the residuals could affect the size and significance of pollution coefficients (Jerrett et al. 2003a). We investigated spatial autocorrelation of the unstandardized residuals. We assessed autocorrelation with first-order, adjusted first-order, and second-order spatial weight matrices based on nearest neighbor contiguity, but we found no evidence of spatial autocorrelation. This supports the conclusion that the models supply efficient unbiased estimates (Jerrett et al. 2003b). As part of our sensitivity analyses, we also derived $PM_{2.5}$ surfaces using different interpolations and weighted least squares with weights equal to the inverse of the standard error of the exposure estimate. All approaches produced very similar results.

Evidence for effect modification. The data suggest substantial interactions with age, sex, smoking, and underlying cardiovascular risk factors. Given the reduced sample size among subgroups, the recruitment of volunteers, and the cross-sectional nature of the data, it is difficult to fully explore the causes of the observed modifications of associations and to establish susceptibility profiles. If the exposure misclassifications differed across subgroups, part of the interactions may be explained by differential exposure error. The sex and age difference could also be an artifact due to measurement error in the assigned exposure because time spent in commuting and location of work places may be different in men and women and in the young and elderly. Empirical studies on mobility suggest women have smaller activity spaces than men and younger groups, meaning they tend to spend more time in and around the home (Kwan and Lee 2004), and the same is probably true of the elderly compared with younger groups. Exposure measurement error may be reduced in those spending more time at home, leading to stronger effects (Thomas et al. 1993). Moreover, differences in statistical power may play a role as well; as shown at least for the 25-40-year age range, power to detect effects on CIMT is larger in women than in men (Stein et al. 2004).

The finding that those reporting prescriptions of lipid-lowering medications at baseline showed stronger associations of CIMT with $PM_{2.5}$ merits further investigation. This result agrees with the observed effects of PM on atherosclerosis in experiments conducted in hyperlipidemic rabbits (Goto et al. 2004; Suwa et al. 2002). The systemic inflammatory and atherogenic reaction in these rabbits was related to the amount of PM contained in the alveolar macrophages. In our study, being under lipid-lowering therapy is an indicator for risk profiles prone to atherogenesis. Those subjects were mostly men (64%) and, on average, older, more often active or passive smokers, and almost twice as likely to report antihypertensive treatment. The systemic response to ambient PM may amplify and expand the oxidation of LDL cholesterol among these susceptible subjects, consequently contributing to injury in the artery wall (Goto et al. 2004; Ross 1999). Investigations of short-term effects of ambient air pollution on mortality also suggest that underlying risk profiles such as diabetes may amplify susceptibility to ambient PM (Zanobetti and Schwartz 2002), and similar findings have been shown with smoking and diabetes mellitus in association with CIMT (Karim et al. 2005). To clarify the relevance of lipid status, it would be interesting to investigate our hypothesis among cohorts with familial hypercholesteremia (Wiegman et al. 2004; Wittekoek et al. 1999).

As shown in Figure 3, the size of the point estimate was larger among the older subjects. Future research needs to clarify whether air pollution contributes to atherosclerosis only after a certain age or early on. Effects of air pollution on lung development have been observed during adolescence and may be a result of both pulmonary and chronic systemic inflammatory effects (Gauderman et al. 2002); thus, it is conceivable that atherogenic responses may occur early in life. The age dependence of the effects may also be codetermined by genetic factors (Humphries and Morgan 2004; Ross 1999).

We also observed larger effects in women. If other cardiovascular risk factors such as occupational exposures dominate atherosclerosis in men, we would expect a smaller effect signal and less precision in the estimates among men. We also hypothesize that interactions may reflect biologic causes. If premenopausal women are protected against atherosclerosis by endogenous hormones, loss of hormonal protection would lead to increased vulnerability after menopause (Kannel et al. 1976). This could explain part of the interaction by both age and sex.

Active and passive smoking did not confound results in either the total sample or among subgroups. Adjustment for active tobacco smoke led to a slight increase in the effect estimate; thus, residual confounding is unlikely to overestimate the effects. However, $PM_{2.5}$ associations were clearly stronger in never smokers compared with smokers (data not shown). This gradient was also observed in all subgroups with significant $PM_{2.5}$ associations (Figure 3). Oxidative and inflammatory effects of smoking may dominate to such an extent that the additional exposure to ambient air pollutants may not further enhance effects along the same pathways. The difference in the effects of $PM_{2.5}$ in smokers and nonsmokers needs further investigation. The American Cancer Society cohort study does not reveal a clear pattern of a smoking interaction for the association of ambient air pollution and cardiovascular death (Krewski et al. 2004; Pope et al. 2004). In the Study on Air Pollution and Lung Diseases in Adults (SAPALDIA), associations between air pollution and level of pulmonary function did not differ by smoking status (Ackermann-Liebrich et al. 1997).

Some U.S. studies indicate effect modification of air pollution by socioeconomic status (SES) with much stronger effects among the less educated (Pope et al. 2002). The cause of this interaction pattern is not well understood. SES status was rather homogeneous in these mostly well-educated volunteers, providing little power to investigate interactions of pollution with SES. If lower SES also positively modifies effects of air pollution on atherosclerosis, our population would provide an underestimate of the health effects in the general population (O'Neill et al. 2003). Further research on samples representative of the population will be needed to assess whether the high SES in the clinical trials biases the effects toward the null.

Future research should focus on identifying factors that determine susceptibility to $PM_{2.5}$. We are initiating studies on subjects with inflammatory metabolic syndromes prone to accelerated atherosclerosis such as postmenopausal women, diabetics, or obese or physically inactive people. To corroborate the cross-sectional findings, follow-up studies are ultimately needed to investigate the association of concurrent levels of air pollution exposure with the progression of CIMT.

Plausibility. From a biologic perspective, our results support the hypothesis that long-term exposure to ambient PM contributes to systemic inflammatory pathways, which are a relevant aspect of atherogenesis (Ross 1999). The findings indicate a biologically plausible link between the observed acute effects of ambient air pollution on systemic inflammation (Glantz 2002) and the long-term consequences of sustained vascular inflammation leading to increased atherosclerosis and, ultimately, cardiovascular death (Hoek et al. 2002; Pope et al. 2004). Among susceptible people, this may lead to artery wall lesions similar to those observed in the rabbit model (Fujii et al. 2002; Suwa et al. 2002). In these hyperlipidemic rabbits, 4-week PM exposure was associated with the progression of atherosclerotic lesions, coupled with an enhanced release of bone marrow monocytes. These precursors of macrophages play an important role in the atherogenic inflammatory responses (Goto et al. 2004; Ross 1999; Suwa et al. 2002). Given the central role of oxidized LDL in the initiation and progression of atherogenesis, suggestions that the plasma of automotive workers with high exposure to traffic exhaust is more susceptible to oxidation is also of interest (Sharman et al. 2002).

As a quantitative plausibility check, we compared the size of the $PM_{2.5}$ effects with effects of other risk factors on CIMT. Using smoking and environmental tobacco smoke (ETS) as a model for air pollution exposure, the size of our estimates appear plausible (Diez-Roux et al. 1995; Howard et al. 1994). Associations of ETS and current levels of air pollution with various respiratory outcomes are similar and support the notion of common underlying pathways (Künzli 2002). Smoking and ETS associate with stiffer and thicker artery walls, reflecting the systemic effect of these exposures (Howard et al. 1994; Mack et al. 2003). Exposure to ETS was associated with 2-3% thicker intima-media, which approximate the effects observed for a 10 $\mu g/m^3$ change in $PM_{2.5}$ (Diez-Roux et al. 1995; Howard et al. 1994). Using never smokers without ETS exposure as the referent group in our data, never smokers with ETS at home had 0.9% (-2.7 to 4.5%) thicker artery walls; former smokers' CIMT was increased on average by 3.4% (0.7-6.3%), and the 30 current smokers had 5% (-1.5 to 11.6%) thicker CIMT. The trend across these four categories of tobacco exposure was statistically significant. As shown in Table 1, smokers were underrepresented in these volunteers of well-educated participants.

The observed percent change in CIMT corresponds to an increase in the thickness of approximately 20-40 μm per 10

$\mu g/m^3$ contrast in $PM_{2.5}$. This difference in CIMT translates into some 3-6% increase in the long-term risk for myocardial infarction (O'Leary et al. 1999). Pope et al. (2004) reported that long-term exposure to $PM_{2.5}$ was associated with an 18% (14-23%) increase in ischemic heart disease. Effect sizes reported here concur with these findings, indicating that a fraction of the total effect of ambient PM on cardiovascular mortality may be mediated through sustained long-term effects of air pollution on atherosclerosis (Künzli et al. 2001). This is in line with the proposed model (Künzli et al. 2001) in which some of the effects observed in cohort studies must reflect long-term contributions of air pollution to the underlying disease progression, whereas in other cases, air pollution contributes only to triggering of cardiovascular events or death (Bell et al. 2004; Künzli et al. 2001; Peters and Pope 2002).

From a biologic and policy perspective, we emphasize that $PM_{2.5}$ probably serves as a surrogate for the mixture of urban air pollution and constituents of PM. It is premature to conclude that $PM_{2.5}$ and its constituents are the atherogenic culprit per se. Atherosclerosis results from complex processes that may include a combination of various urban pollutants, host factors, and pathways that ultimately lead to the findings of a CIMT-$PM_{2.5}$ association.

In conclusion, we have presented the first epidemiologic evidence supporting the idea of a chronic vascular response to respiratory and systemic effects of PM exposure. Given the leading role of heart disease as a cause of death in most westernized countries and the growing contribution in developing countries, these findings may be of high public health relevance. Further investigations need to focus on susceptible groups and follow-up of cohorts to investigate the effect of air pollution on the progression of CIMT.

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